

FIG. 1

	A	B	C	D	E	F	G	H	I
1	Customer Benefit Model								
2							Workflow		
3							Create Project		
4							Shift Data		
5							Line Configuration		
6							Board Data		
7							Create Simulation		
8							Save and Exit		
9									
10									
11									
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15									
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30									
31									

Files

Project Name: 052201e Scenario #

CBM Directory: C:\anRawlesProjects\CBM\latestthomas2

CBM DE Directory: C:\anRawlesProjects\CBM\latestthomas2\So

CBM Project Directory: C:\anRawlesProjects\CBM\latestthomas2\projects\052201d

Simulation Directory: C:\program files\simulation2000

Time to run Simulation (days): 1

Build your project and set up the directory for experiments

FIG. 2

	W	X	Y	Z	AA	AB
1	<div>C:\lanRawles\Projects\CBM\latestthomas2</div> <div>C:\lanRawles\Projects\CBM\latestthomas2\So</div> <div>C:\lanRawles\Projects\CBM\latestthomas2\projects\052201d</div>					
2						
3						
4						
5						
6						
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26						
27						
28						
29						
30						
31						

FIG. 2A

Name				Size	Type	Date & Time	
1				550KB	Microsoft Excel-Tab	16:05:01	13:21
CBM.xls				550KB	Microsoft Excel-Tab	16:05:01	13:03
CBM.Reports.xls				550KB	Microsoft Excel-Tab	16:05:01	13:07
CBM.transfer.xls				550KB	Microsoft Excel-Tab	16:05:01	13:08

Desktop

My Computer

Diskette A

(C:)

(D:)

Data

Recycler

Tmm_XXXX

CBA Calculator

CTM

COO

Pricing

S.G.S.

Sales Training

SIPLACE CBM

Projects

Test 2001-05-16-01

1

Test 1

Test 2

Test 3

Test 4

So

SIPLACE CEMARCHIVE

FIG. 3

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U																																																
					Main																																																																
1																																																																					
2	Shift Schedule				SHIFT 1									SHIFT 2																																																							
3					shift start	break 1 start	break 1 end	lunch start	lunch end	break 2 start	break 2 end	shift end	shift start	break 1 start	break 1 end	lunch start	lunch end	break 2 start	break 2 end	shift end	shift start																																																
4	Monday			14	7:00	7:00	7:00	12:00	13:00	13:00	13:00	15:00	15:00	15:00	15:00	20:00	21:00	21:00	21:00	23:00	23:00																																																
5	Tuesday			14	7:00	7:00	7:00	12:00	13:00	13:00	13:00	15:00	15:00	15:00	15:00	20:00	21:00	21:00	21:00	23:00	23:00																																																
6	Wednesday			14	7:00	7:00	7:00	12:00	13:00	13:00	13:00	15:00	15:00	15:00	15:00	20:00	21:00	21:00	21:00	23:00	23:00																																																
7	Thursday			14	7:00	7:00	7:00	12:00	13:00	13:00	13:00	15:00	15:00	15:00	15:00	20:00	21:00	21:00	21:00	23:00	23:00																																																
8	Friday			14	7:00	7:00	7:00	12:00	13:00	13:00	13:00	15:00	15:00	15:00	15:00	20:00	21:00	21:00	21:00	23:00	23:00																																																
9	Saturday			14	7:00	7:00	7:00	12:00	13:00	13:00	13:00	15:00	15:00	15:00	15:00	20:00	21:00	21:00	21:00	23:00	23:00																																																
10	Sunday			14	7:00	7:00	7:00	12:00	13:00	13:00	13:00	15:00	15:00	15:00	15:00	20:00	21:00	21:00	21:00	23:00	23:00																																																
11	shifts apply for model				0	not working																																																															
12	Initial Offset				1																																																																
13	Only lunch break applies				0																																																																
14	Breaks apply for machines				0																																																																
15	Weeks per year				50																																																																
16	Days off per year				10																																																																
17	Hours per day				24.00																																																																
18	Hours per day/average				23.31																																																																
19	Hours per week				168.00																																																																
20	Hours per week/average				153.20																																																																
21	Hours per year				8160.00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17																																															
22	#				break 1 start					break 2 start					shift start					break 1 start					break 2 start					shift start																																							
23	1				break 1 end					break 2 end					shift end					break 1 end					break 2 end					shift end																																							
24	2																																																																				
25	3																																																																				
26	4																																																																				
27	5																																																																				
28	6																																																																				
29	10				6:00					8:00					8:15					10:00					10:30					14:00					14:00					16:00					16:15					18:00					18:30					22:00					22:00				
30	11																																																																				

FIG. 4

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
31				12	7:00			12:00	13:00			15:00	15:00	15:00		20:00	21:00			23:00	23:00
32				13	7:00	8:00	8:15	12:00	12:30	15:00	15:15	19:30	19:30	20:00	20:15	0:00	0:30	3:00	3:15	7:00	
33				14	7:00			12:00	13:00			15:00	15:00	15:00		20:00	21:00			23:00	23:00
34				15																	
35				16																	
36				17																	
37				18																	
38				19																	
39				20																	
40				21																	
41				22																	
42				23																	

FIG. 4A

	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO
1																				
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
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25																				
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27																				
28																				
29																				
30																				

FIG. 4B

	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO
31			4:00	5:00			7:00	→ Customer 1												
32								→ Customer 2												
33			4:00	5:00			7:00	→ Customer 3												
34								→ Customer 4												
35																				
36																				
37																				
38																				
39																				
40																				
41																				
42																				

FIG. 4C

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	
<div>Line Configuration</div> <div>InsertDeleteDatabaseMain</div> <div>Return to the Main page</div>																				
1																				
2	Insert			# of process cells	transport system		assists/min/min		maintenance (h/min) shift		failure (h/min) level 1		grafic		month		maintenan qu			
3	row				SID-Lane	synch	asynch	MTBA	MTTR	MTBM	MTTR	MTBF	MTTR	X	offset	MTBM	MTTM	MTBM		
4	delete row																			
5																				
9	1	7300 Buffer		0	0	0	60	1	0	0	0	0	0	100	0	680	0	4080		
10	2	7511 Conveyor 1060		0	1	1	60	1	0	0	0	0	0	200	0	680	0	4080		
11																				
12																				
13																				
14																				
15																				
16																				
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28																				
29																				
30																				
31																				
32																				
33																				
34																				

FIG. 5

	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
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33														
34														

FIG. 5A

	AU	AV	AW	AX	AY	AZ
1						
2						Bare Board Loader
3						Buffer
4						Conveyor 1060
5						Conveyor 1590
9						Conveyor 2380
10						F4 x 2 / SPL
11						F4 x 3 / SPL
12						F5
13						F5 x 2 / SPL
14						F5 x 3 / SPL
15						Flip Station 180
16						HS-50
17						HS-50 x 2 / SPL
18						HS-50 x 3 / SPL
19						Last Lift
20						Magazine Buffer MB100
21						Magazine Buffer MB50
22						Magazine Loader ML02
23						Magazine Loader ML05
24						Magazine Unloader MIJ02
25						Magazine Unloader MIJ05
26						Printer pro-flow
27						Printer pro-flow temp control
28						Printer squeegee operation
29						Printer squeegee operation temp control
30						RX 261
31						RX 262
32						RX 331
33						RX 332
34						RX 411
						RX 412

FIG. 5B

	AU	AV	AW	AX	AY	AZ
35	S-20 S-23 S-25 Shuttle-1 lane to 2 lane Shuttle-2 lane to 1 lane Telescopic Gate TG Turn Station TS					
36						
37						
38						
39						
40						
41						

FIG. 5C

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
	<div>Line Configuration</div> <div>Insert</div> <div>Delete</div> <div>Database</div> <div>Main</div>																		
1	Return to the Main page																		
2	insert			# of		transport system		assists(min/		maintenance (h/min)		failure (h/min)		grafic		month		maintenan	
3	row			cells		S/D- Lane		min)		shift		level 1		X		MTBM		qu	
4	delete row							MTBA MTTR		MTBA MTTR		MTBF MTTR		offset		MTBM		MTBM	
5																			
9	1	7300		0		0		60 1		0 0		0 0		100		680		4080	
10	2	7511		0		1		60 1		0 0		0 0		200		680		4080	
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
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28																			
29																			
30																			
31																			
32																			
33																			
34																			

FIG. 6

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
33	F4 x 2/SPL	1042	1	1	1	2	60	1					450			163.20		680.00
34	F4 x 3/SPL	1043	1	1	1	3	60	1					875			163.20		680.00
35	F5	1050	1	1	1	1	60	1					200			163.20		680.00
36	F5 x 2/SPL	1052	1	1	1	2	60	1					450			163.20		680.00
37	F5 x 3/SPL	1053	1	1	1	3	60	1					875			163.20		680.00
38	Flip Station 180	7580	1	1	1	0	60	1					200			163.20		680.00
39	HS-50	1500	1	1	1	2	60	1					400			163.20		680.00
40	HS-50 x 2/SPL	1502	1	1	1	4	60	1					850			163.20		680.00
41	HS-50 x 3/SPL	1503	1	1	1	6	60	1					1250			163.20		680.00
42	Last Lift	7500	0	0	0	0	60	1					700			163.20		680.00
43	Magazine Buffer MB100	7320	0	0	0	0	60	1					100			163.20		680.00
44	Magazine Buffer MB50	7310	0	0	0	0	60	1					100			163.20		680.00
45	Magazine Loader ML02	7600	1	1	1	0	60	1					200			163.20		680.00
46	Magazine Loader ML05	7610	1	1	1	0	60	1					200			163.20		680.00
47	Magazine Unloader MU02	7601	1	1	1	0	60	1					200			163.20		680.00
48	Magazine Unloader MU05	7611	1	1	1	0	60	1					200			163.20		680.00
49	Printer pro-flow	9003	1	1	1	0	60	1					200			163.20		680.00
50	Printer pro-flow temp control	9004	1	1	1	1	60	1					200			163.20		680.00
51	Printer squeegee operation	9001	1	1	1	1	60	1					200			163.20		680.00
52	Printer squeegee operation temp control	9002	1	1	1	1	60	1					700			163.20		680.00
53	RX 261	8001	1	1	1	1	60	1					700			163.20		680.00
54	RX 262	8002	1	1	1	1	60	1					700			163.20		680.00
55	RX 331	8003	1	1	1	1	60	1					700			163.20		680.00
56	RX 332	8004	1	1	1	1	60	1					700			163.20		680.00
57	RX 411	8005	1	1	1	1	60	1					700			163.20		680.00
58	RX 412	8006	1	1	1	1	60	1					700			163.20		680.00
59	S-20	1200	1	1	1	1	60	1					200			163.20		680.00
60	S-23	1230	1	1	1	1	60	1					200			163.20		680.00
61	S-25	1250	1	1	1	1	60	1					200			163.20		680.00
62	Shuttle - 1 lane to 2 lane	7100	0	0	0	0	60	1					100			163.20		680.00
63	Shuttle - 2 lane to 1 lane	7200	0	0	0	0	60	1					100			163.20		680.00
64	Telescopic Gate TG	7550	1	1	1	0	60	1					150			163.20		680.00
65	Turn Station TS	7570	1	1	1	0	60	1					200			163.20		680.00
66																163.20		680.00
67																163.20		680.00
68																163.20		680.00

FIG. 7A

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
33	F4 x 2 / SPL	1042	1	1	1	60	1									163.20		680.00
34	F4 x 3 / SPL	1043	1	1	3	60	1									163.20		680.00
35	F5	1050	1	1	1	60	1									163.20		680.00
36	F5 x 2 / SPL	1052	1	1	2	60	1									163.20		680.00
37	F5 x 3 / SPL	1053	1	1	3	60	1									163.20		680.00
38	Flip Station 180	7560	1	1	0	60	1									163.20		680.00
39	HS-50	1500	1	1	2	60	1									163.20		680.00
40	HS-50 x 2 / SPL	1502	1	1	4	60	1									163.20		680.00
41	HS-50 x 3 / SPL	1503	1	1	6	60	1									163.20		680.00
42	Last Lift	7500	0	0	0	60	1									163.20		680.00
43	Magazine Buffer MB100	7320	0	0	0	60	1									163.20		680.00
44	Magazine Buffer MB50	7310	0	0	0	60	1									163.20		680.00
45	Magazine Loader ML02	7600	0	1	0	60	1									163.20		680.00
46	Magazine Loader ML05	7610	1	1	0	60	1									163.20		680.00
47	Magazine Unloader MU02	7601	1	1	0	60	1									163.20		680.00
48	Magazine Unloader MU05	7611	1	1	0	60	1									163.20		680.00
49	Printer pro-flow	9003	1	0	1	60	1									163.20		680.00
50	Printer pro-flow temp control	9004	1	0	1	60	1									163.20		680.00
51	Printer squeegee operation	9001	1	0	1	60	1									163.20		680.00
52	Printer squeegee operation temp control	9002	1	0	1	60	1									163.20		680.00
53	RX 261	8001	1	1	1	60	1									163.20		680.00
54	RX 262	8002	1	1	1	60	1									163.20		680.00
55	RX 331	8003	1	1	1	60	1									163.20		680.00
56	RX 332	8004	1	1	1	60	1									163.20		680.00
57	RX 411	8005	1	1	1	60	1									163.20		680.00
58	RX 412	8006	1	1	1	60	1									163.20		680.00
59	S-20	1200	1	1	1	60	1									163.20		680.00
60	S-23	1230	1	1	1	60	1									163.20		680.00
61	S-25	1250	1	1	1	60	1									163.20		680.00
62	Shuttle - 1 lane to 2 lane	7100	0	0	0	60	1									163.20		680.00
63	Shuttle - 2 lane to 1 lane	7200	0	0	0	60	1									163.20		680.00
64	Telescopic Gate TG	7550	1	1	0	60	1									163.20		680.00
65	Turn Station TS	7570	1	1	0	60	1									163.20		680.00
66																163.20		680.00
67																163.20		680.00
68																163.20		680.00

FIG. 7B

TOT090 "T20E"860

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
69																163.20		680.00
70																163.20		680.00
71																163.20		680.00
72																163.20		680.00
73																163.20		680.00
74																163.20		680.00
75																163.20		680.00
76																163.20		680.00
77																163.20		680.00
78																163.20		680.00
79																163.20		680.00
80																163.20		680.00
81																163.20		680.00
82																163.20		680.00
83																163.20		680.00
84																163.20		680.00
85																163.20		680.00
86																163.20		680.00
87																163.20		680.00
88																163.20		680.00
89																163.20		680.00
90																163.20		680.00
91																163.20		680.00
92																163.20		680.00
93																163.20		680.00
94																163.20		680.00
95																163.20		680.00
96																163.20		680.00
97																163.20		680.00
98																163.20		680.00
99																163.20		680.00

FIG. 7C

	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH
1																
2	e(h/min)															
3	thly	quarterly	yearly													
4	MTTM	MTBM	MTTM	MTBM	MTTM	graphic detailed length offset	graphic high level length offset			witness module single lane	witness module dual lane	inbound routing				
5	4080.00			8160.00		0										
6	4080.00			8160.00		0										
7	4080.00			8160.00		0										
8	4080.00			8160.00		0										
9	4080.00			8160.00		0										
10	4080.00			8160.00		0										
11	4080.00			8160.00		0										
12	4080.00			8160.00		0										
13	4080.00			8160.00		0										
14	4080.00			8160.00		0										
15	4080.00			8160.00		0										
16	4080.00			8160.00		0										
17	4080.00			8160.00		0										
18	4080.00			8160.00		0										
19	4080.00			8160.00		0										
20	4080.00			8160.00		0										
21	4080.00			8160.00		0										
22	4080.00			8160.00		0										
23	4080.00			8160.00		0										
24	4080.00			8160.00		0										
25	4080.00			8160.00		200				BareBoard_Loader	Printermc					
26	4080.00			8160.00		150				Buffers	B1					
27	4080.00			8160.00		150				Conv2_1	conv5_2001					
28	4080.00			8160.00		150				Conv3_1	conv5_2001					
29	4080.00			8160.00		150				Conv4_1	conv5_2001					
30	4080.00			8160.00		150				Conv1_1	conv5_2001					
31	4080.00			8160.00		150				Conv5_1	conv5_2001					
32	4080.00			8160.00		200				S25 L1	Conveyor001					

FIG. 7D

S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH
33	4080.00		8160.00		600	0			S25Cluster2_L1	S25Cluster2	Lift1				450
34	4080.00		8160.00		900	0			S25Cluster3_L1	S25Cluster3	Lift1				875
35	4080.00		8160.00		200	0			S25_L1	S25	Conveyor001				200
36	4080.00		8160.00		600	0			S25Cluster2_L1	S25Cluster2	Lift1				450
37	4080.00		8160.00		900	0			S25Cluster3_L1	S25Cluster3	Lift1				875
38	4080.00		8160.00		200	0			Flip_Station		Printermc				200
39	4080.00		8160.00		350	0			HS50_L1	HS50	Conveyor001				400
40	4080.00		8160.00		900	0			HS50Cluster2_L	HS50Cluster2L	Lift1				850
41	4080.00		8160.00		1350	0			HS50Cluster3_L	HS50Cluster3L	Lift1				1250
42	4080.00		8160.00		100	0			Lastlift		Lift4				700
43	4080.00		8160.00		150	0			Buffer_Magazine100		B1				100
44	4080.00		8160.00		150	0			Buffer_Magazine50		B1				100
45	4080.00		8160.00		200	0			Magazine_Loader2		Printermc				200
46	4080.00		8160.00		200	0			Magazine_Loaders		Printermc				200
47	4080.00		8160.00		200	0			Magazine_Unloader2		Printermc				200
48	4080.00		8160.00		200	0			Magazine_Unloader5		Printermc				200
49	4080.00		8160.00		200	0			Printer		Printermc				200
50	4080.00		8160.00		200	0			Printer		Printermc				200
51	4080.00		8160.00		200	0			Printer		Printermc				200
52	4080.00		8160.00		200	0			Printer		Printermc				200
53	4080.00		8160.00		1400	0			Oven_1Lane	Oven_2	Oven_2001				700
54	4080.00		8160.00		1400	0			Oven_1Lane	Oven_2	Oven_2001				700
55	4080.00		8160.00		1400	0			Oven_1Lane	Oven_2	Oven_2001				700
56	4080.00		8160.00		1400	0			Oven_1Lane	Oven_2	Oven_2001				700
57	4080.00		8160.00		1400	0			Oven_1Lane	Oven_2	Oven_2001				700
58	4080.00		8160.00		1400	0			S25_L1	S25	Conveyor001				200
59	4080.00		8160.00		200	0			S25_L1	S25	Conveyor001				200
60	4080.00		8160.00		200	0			S25_L1	S25	Conveyor001				200
61	4080.00		8160.00		200	0			S25_L1	S25	Conveyor001				200
62	4080.00		8160.00		100	0			Shuttle1_2		Shuttle				100
63	4080.00		8160.00		100	0			Shuttle2_1		Shuttle				100
64	4080.00		8160.00		150	0			ConvTG		conv5_2001				150
65	4080.00		8160.00		200	0			Turn_Station		Printermc				200
66	4080.00		8160.00												
67	4080.00		8160.00												
68	4080.00		8160.00												

FIG. 7E

	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH
69		4080.00		8160.00												
70		4080.00		8160.00												
71		4080.00		8160.00												
72		4080.00		8160.00												
73		4080.00		8160.00												
74		4080.00		8160.00												
75		4080.00		8160.00												
76		4080.00		8160.00												
77		4080.00		8160.00												
78		4080.00		8160.00												
79		4080.00		8160.00												
80		4080.00		8160.00												
81		4080.00		8160.00												
82		4080.00		8160.00												
83		4080.00		8160.00												
84		4080.00		8160.00												
85		4080.00		8160.00												
86		4080.00		8160.00												
87		4080.00		8160.00												
88		4080.00		8160.00												
89		4080.00		8160.00												
90		4080.00		8160.00												
91		4080.00		8160.00												
92		4080.00		8160.00												
93		4080.00		8160.00												
94		4080.00		8160.00												
95		4080.00		8160.00												
96		4080.00		8160.00												
97		4080.00		8160.00												
98		4080.00		8160.00												
99		4080.00		8160.00												

FIG. 7F

	N	O	P	Q	R	S	T	U	V	W	X	Y
1												
2	10	11	12	13	14	15	16	17	18	19	20	21
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13	999	999	999	999	999	999	999	999	999	999	999	999
14	999	999	999	999	999	999	999	999	999	999	999	999

FIG. 8A

	Z	AA	AB	AC	AD	AE	AF	AG	AH
1									
2	22	23	24	25	26	27	28	29	30
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13	999	999	999	999	999	999	999	999	999
14	999	999	999	999	999	999	999	999	999

FIG. 8B

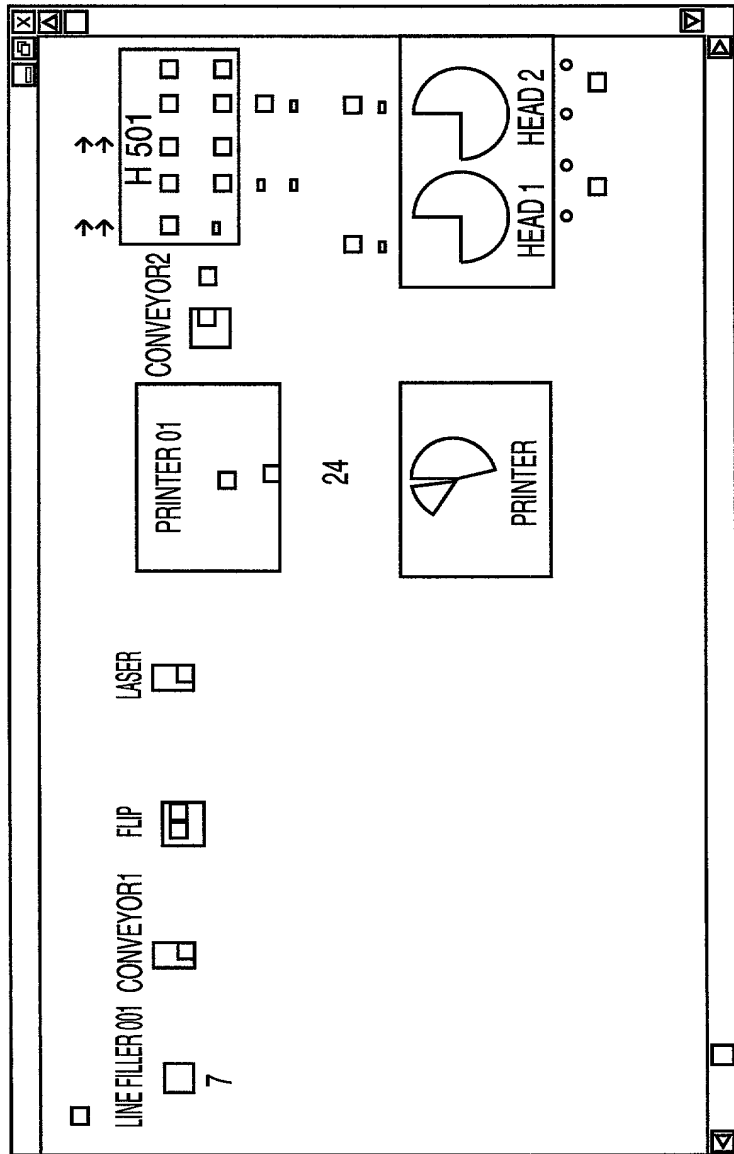


FIG. 9

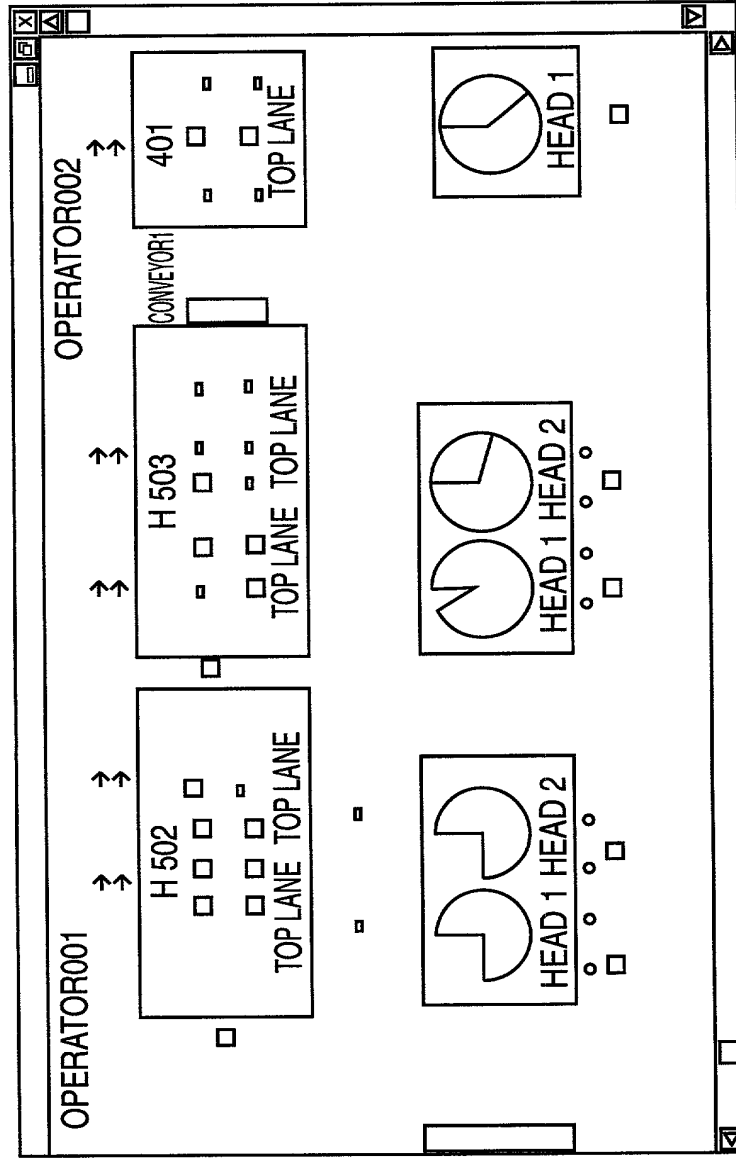


FIG. 9A

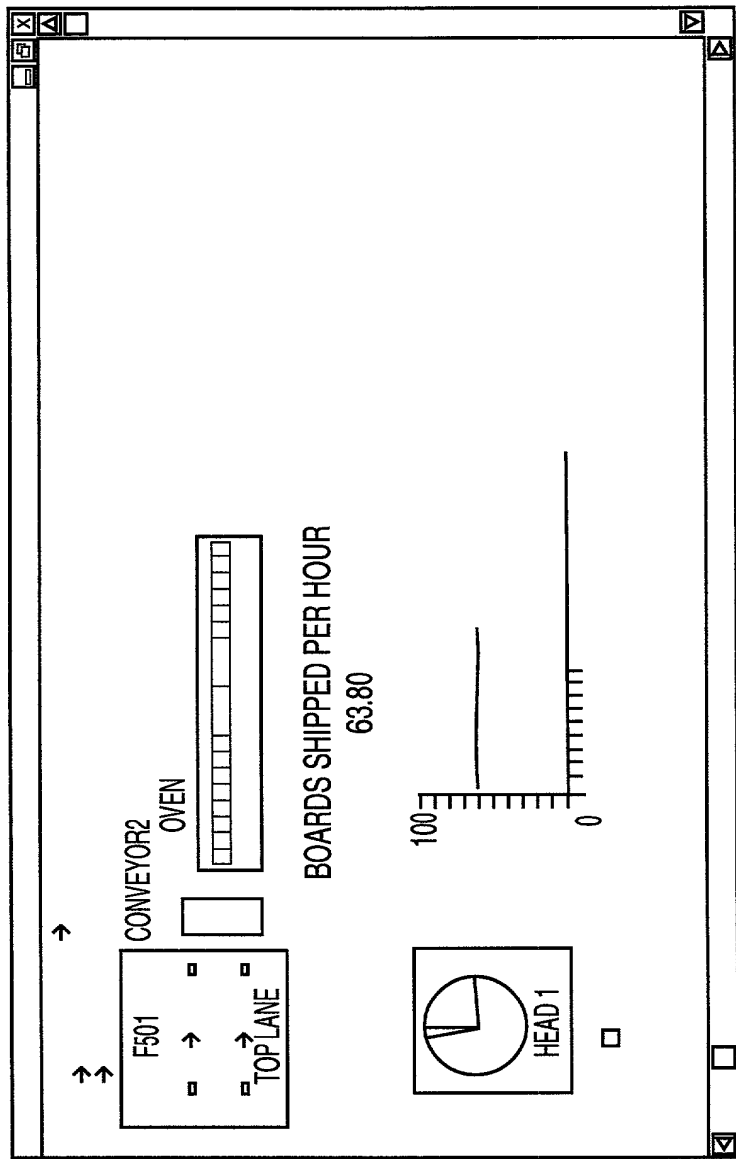


FIG. 9B

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												

Sheets

Boundaries

Setup

Quality

Maintenance

Summary

Graphs

Cost of Ownership

Machine Statistics

FIG. 10

	A	B	C	D	E	F	G
1	Boundaries						
2	Project	Test1 31/March 2001					
3	Date						
4							
5		default project					
6	Financial						
7	Currency (Input)	0					
8	Currency (Output)	0					
9	Exchang ratio (In/Out)	0.00					
10	Depreciation	0.00%					
11	Interest Rate	0%					
12	Labor	0					
13	Operator	0.00					
14	Supervisor	0.00					
15	Maintenance	0.00					
16	Rework	0.00					
17	Utilities	0					
18	floor space (year/spm)	0.00					
19	electricity (kWh)	0.00					
20	Nitrogen (???)	0.00					
21	air (???)	0.00					
22							
23							
24							
25							
26							

Main

FIG. 11

	A	B	C	D	E	F	G
1	Setup						
2							
3	internal setup						
4	Operator labor per hour	0.00	hours				
5	setup changes every x h						
6	# of setup changes per week	0					
7	setup changes per year		min.				
8	time per setup	0.00	hours				
9	setup time per year	0					
10	internal setup costs						
11	external setup						
12	external setup labour per hour		minutes per setup				
13	external setup						
14	external setup per year	0.00	hours				
15	Investment for external setup						
16							
17							
18	external setup costs per year	0					
19							
20							
21	setup costs	0					

Main

FIG. 12

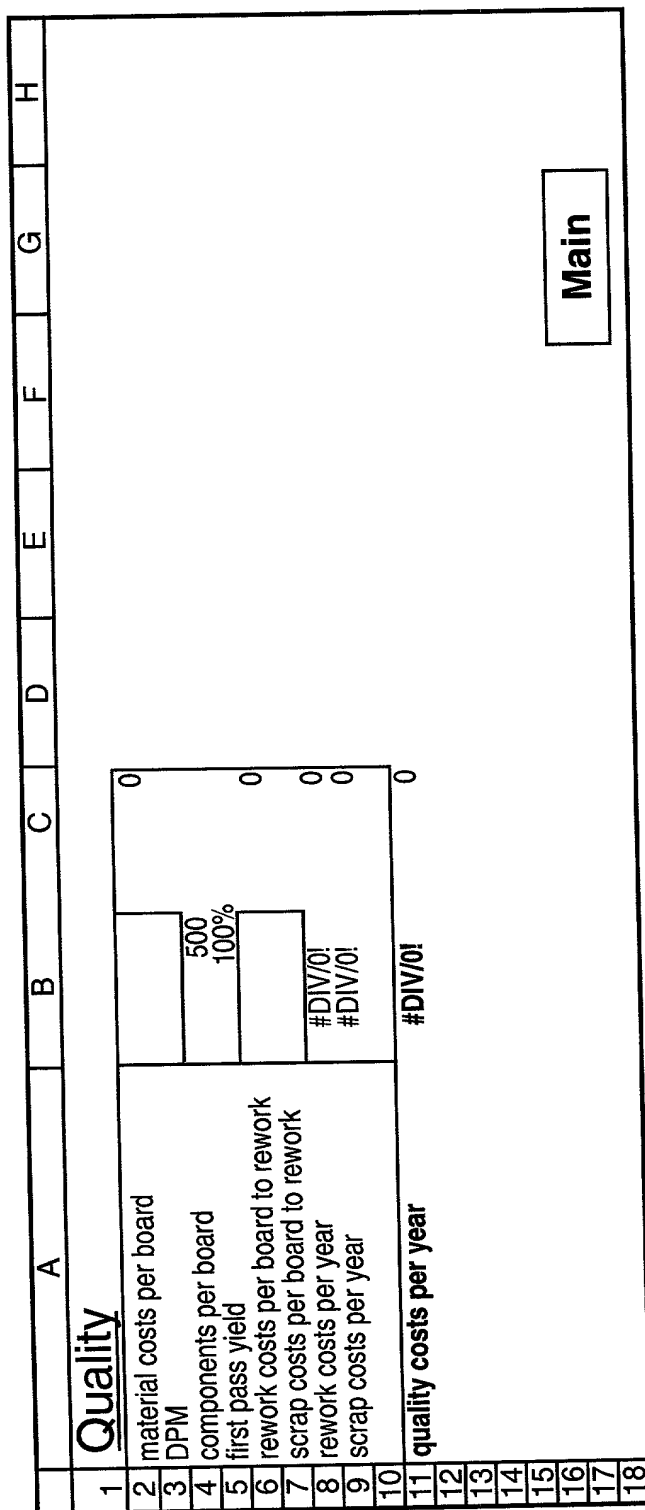


FIG. 13

A		B	C	D	E	F	G	H	I
			minutes	# of workers	who does maint.	downtime factor	line operator (h)	maint. team (h)	downtime (h)
Maintenance									
1									
2	line workers			0					
3	maintenance per shift (min)			1		100%	0.00	0.00	#DIV/0!
4	maintenance weekly (min)			1		100%	0.00	0.00	#DIV/0!
5	maintenance monthly add. (min)			2		100%	#DIV/0!	#DIV/0!	#DIV/0!
6	maintenance quarterly add (min)			3		100%	0.00	0.00	#DIV/0!
7	maintenance every x h add (min)			3		100%	0.00	0.00	#DIV/0!
8	maintenance time calculated (h)	10,000					#DIV/0!	#DIV/0!	0
9	labor costs						#DIV/0!	#DIV/0!	
10									
11	maintenance costs per year							#DIV/0!	0.000000 €
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									

Main

FIG. 14

	A	B	C	D	E	F	F	H	I	J	K
Cost of Ownership											
1	Cost per year					Cost per board		Capacity			
2											
3	Investment										
4	investment										
5	spareparts										
6	service										
7											
8	Labor										
9	Operations										
10	Supervisor										
11											
12											
13	Misc.										
14	Setup										
15	Maintenance										
16											
17											
18	Utilities										
19	Floorspace										
20	Electricity										
21	Nitrogen										
22	Air										
23											
24											
25	Quality										
26	rework costs per year										
27	scrap costs per year										
28											
29											
30	Costs per year										
31											

FIG. 15

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1														
2														
3														
4														
5														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														
23														
24														
25														
26														
27														
28														
29														
30														
31														
32														
33														
34														
35														
36														
37														
38														
39														

UTILITIES 9152

QUALITY

MISC 13209

LABOR 53658

INVESTMENT 127838

FIG. 16

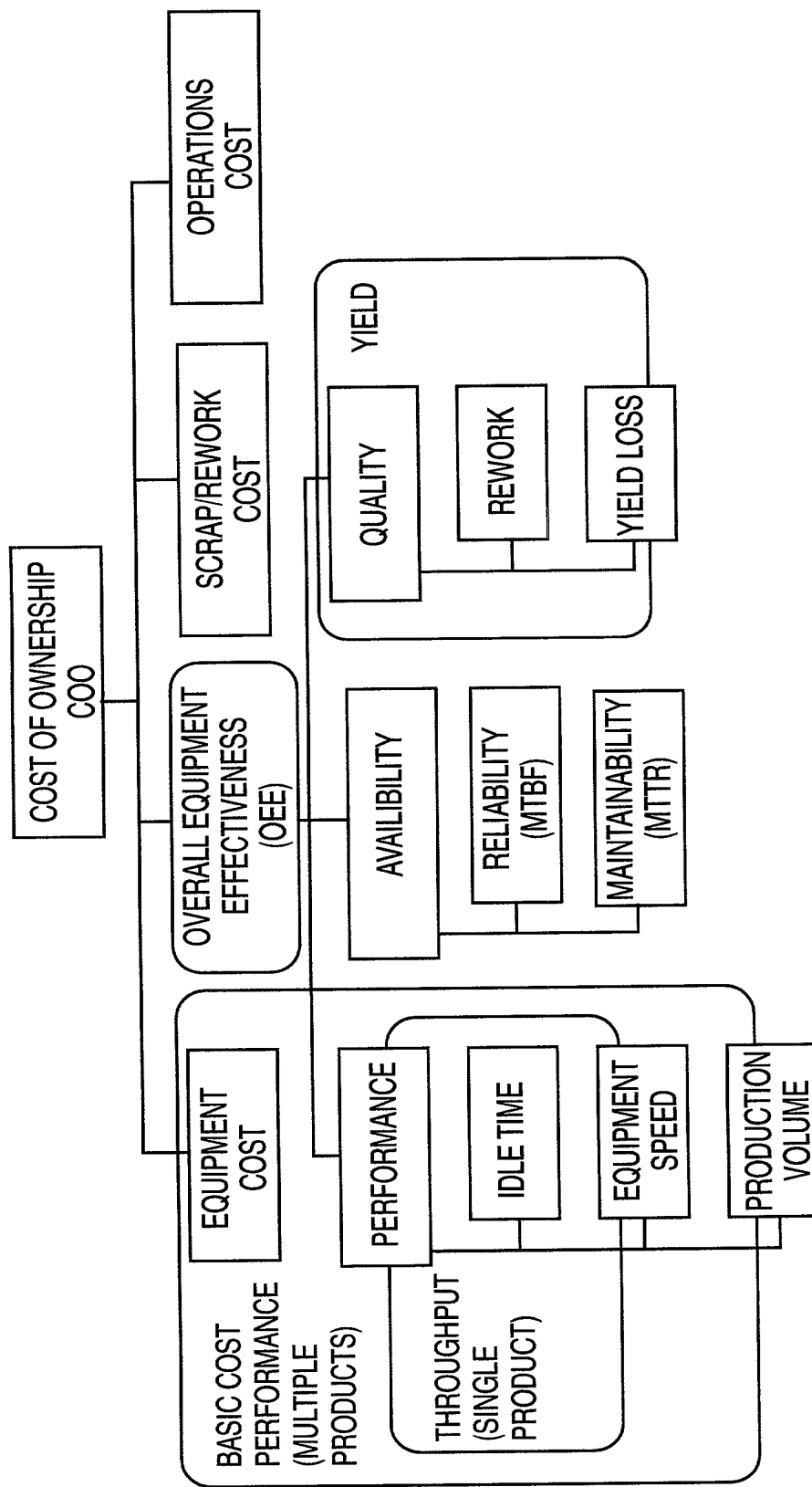


FIG. 16A

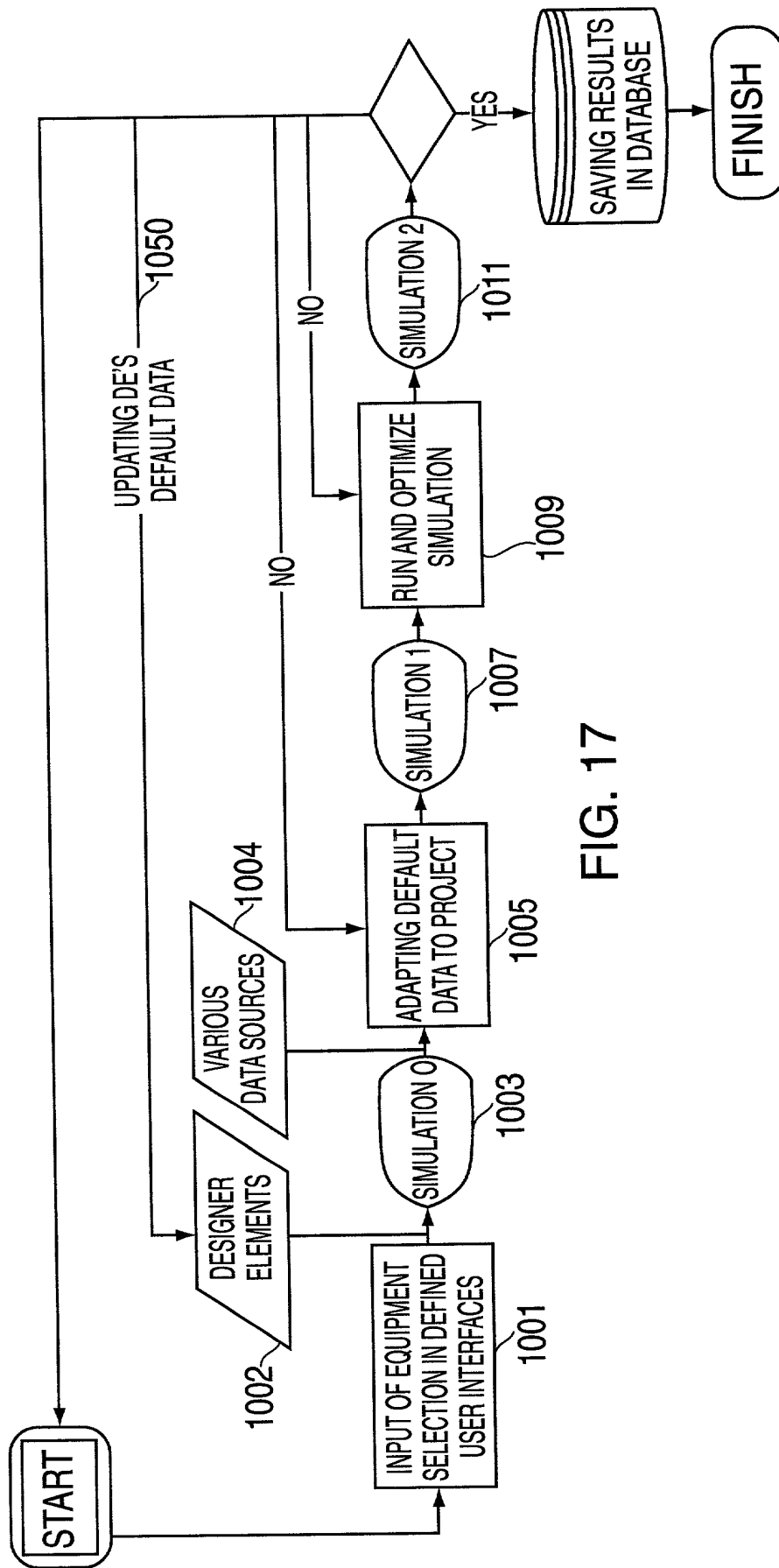


FIG. 17

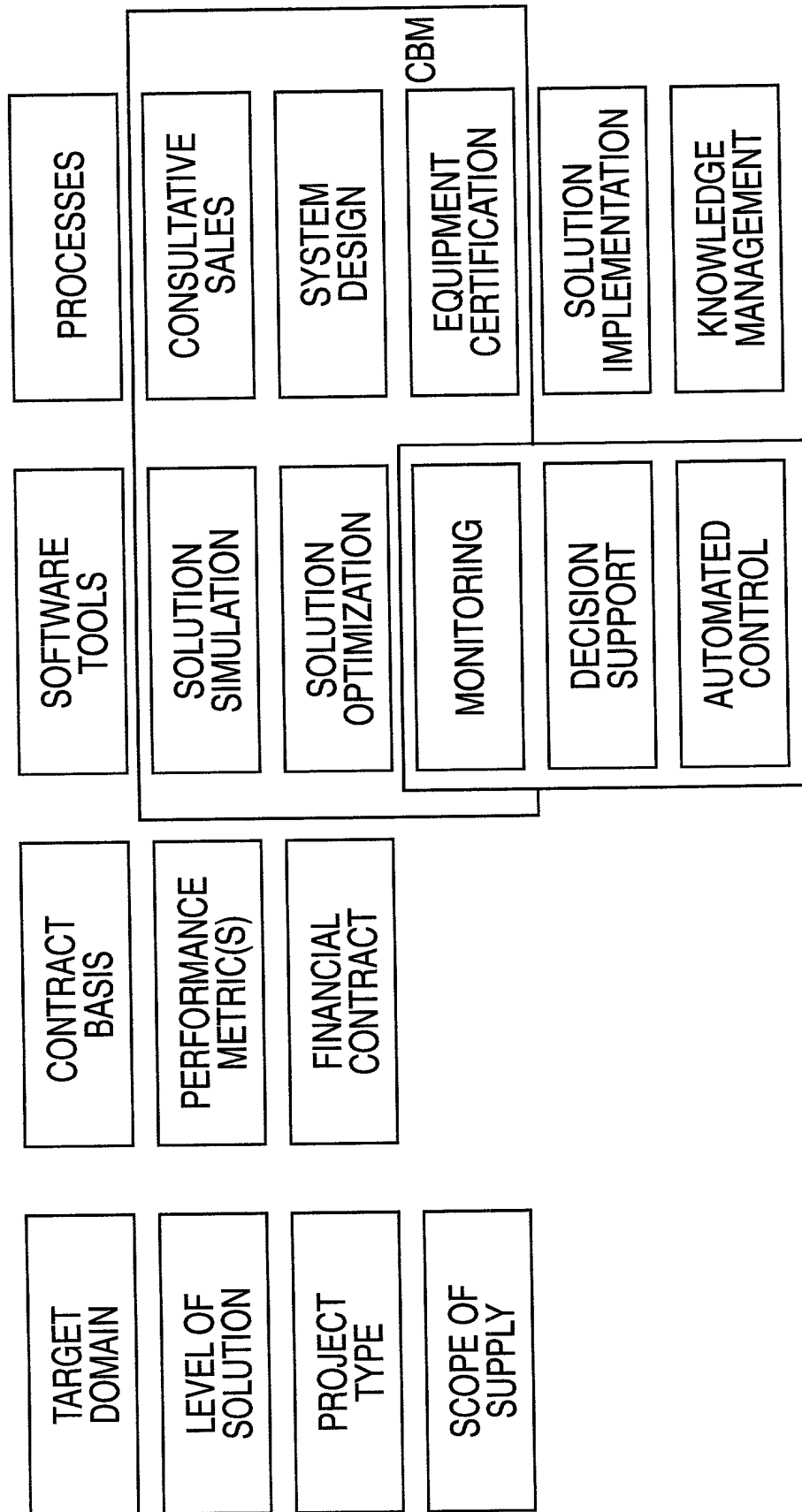


FIG. 18

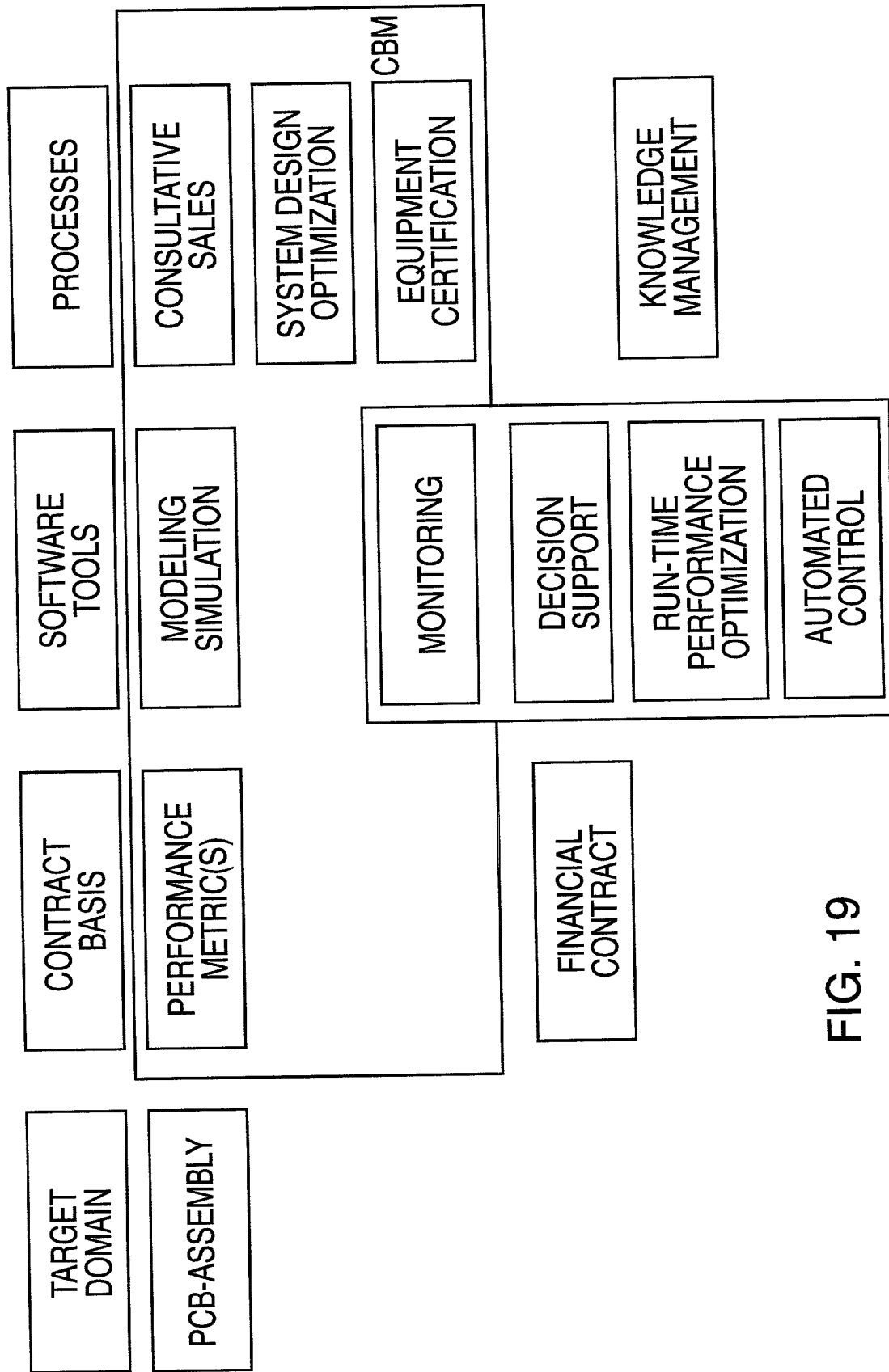


FIG. 19

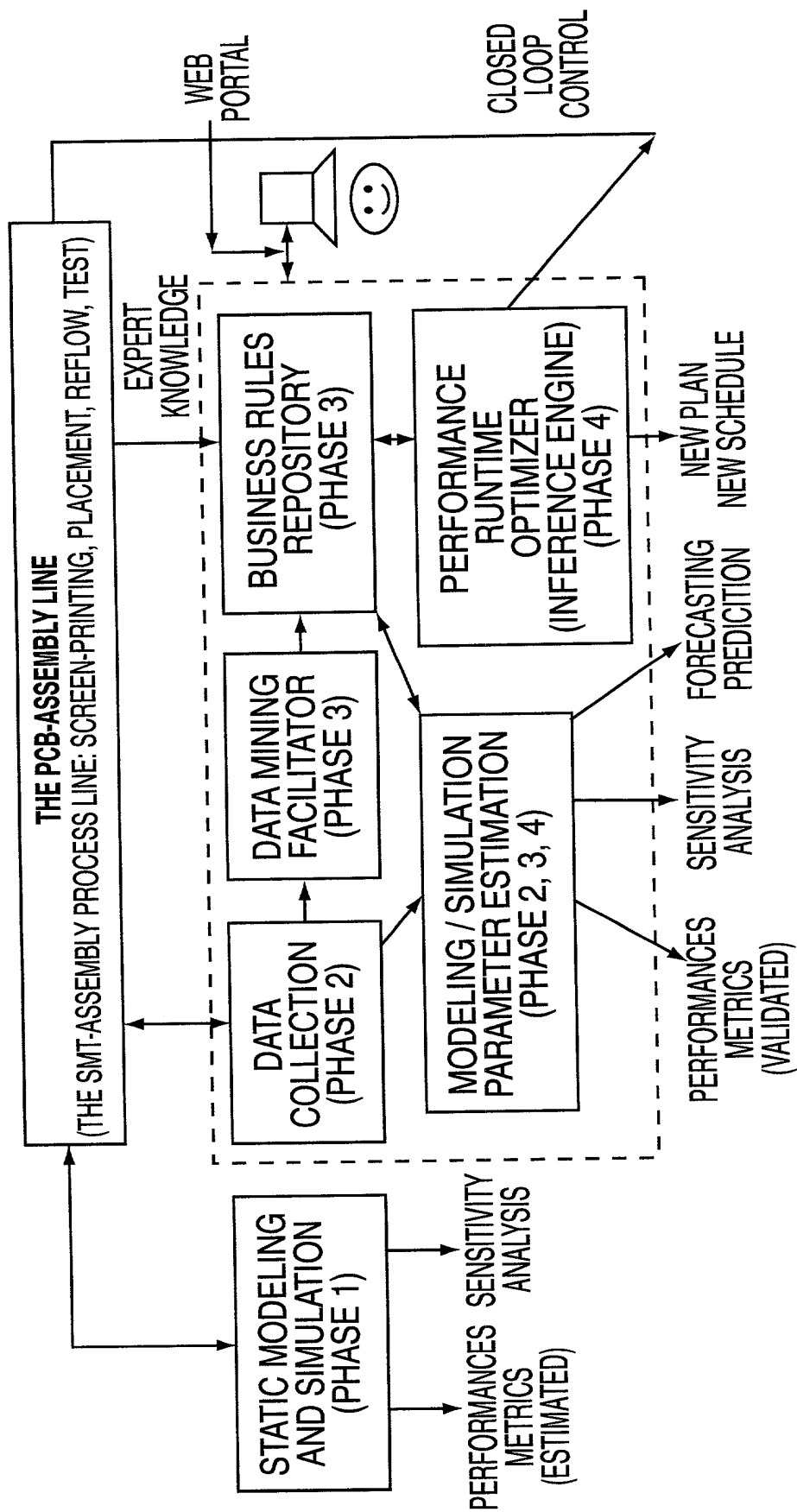


FIG. 20

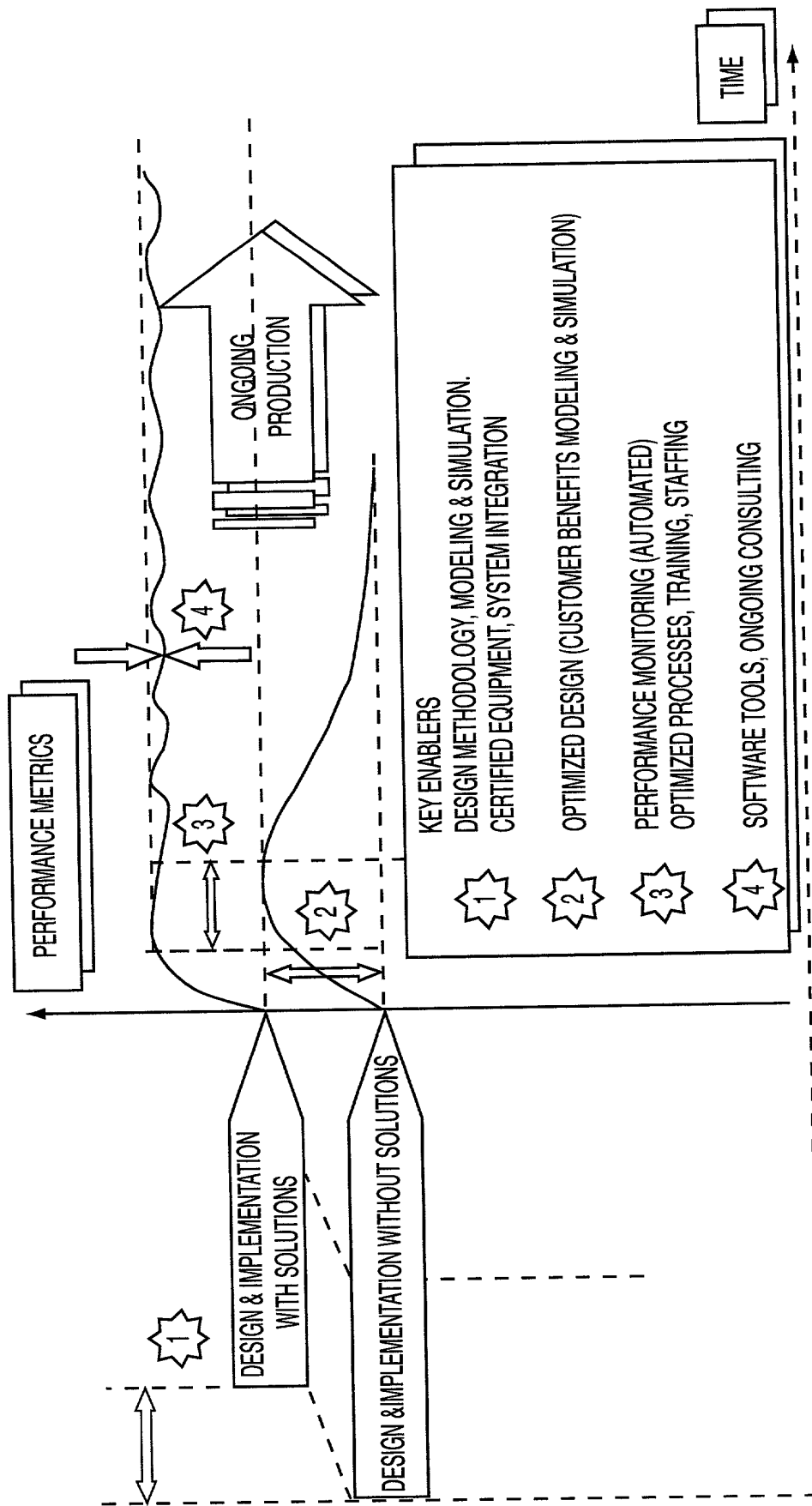


FIG. 21

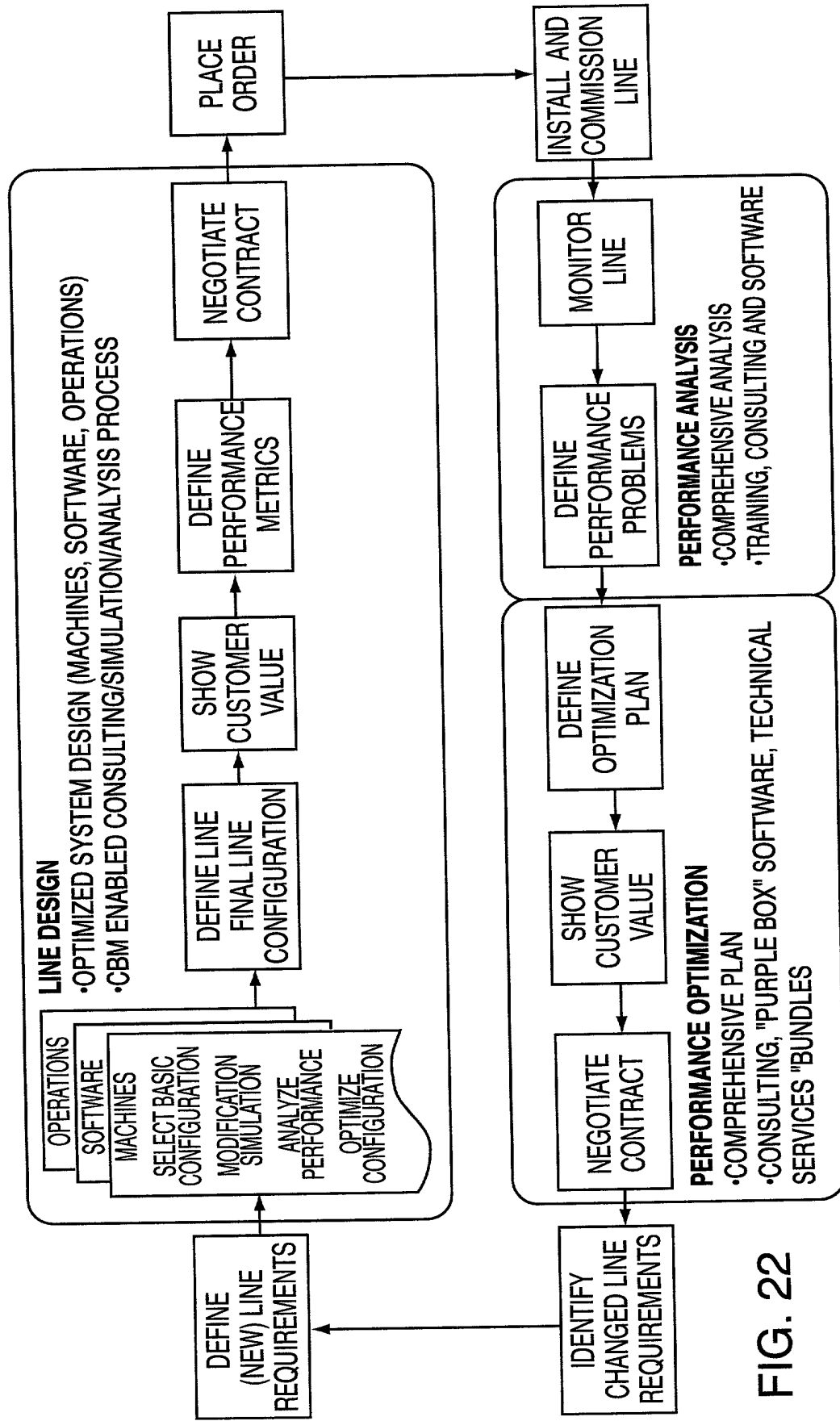


FIG. 22

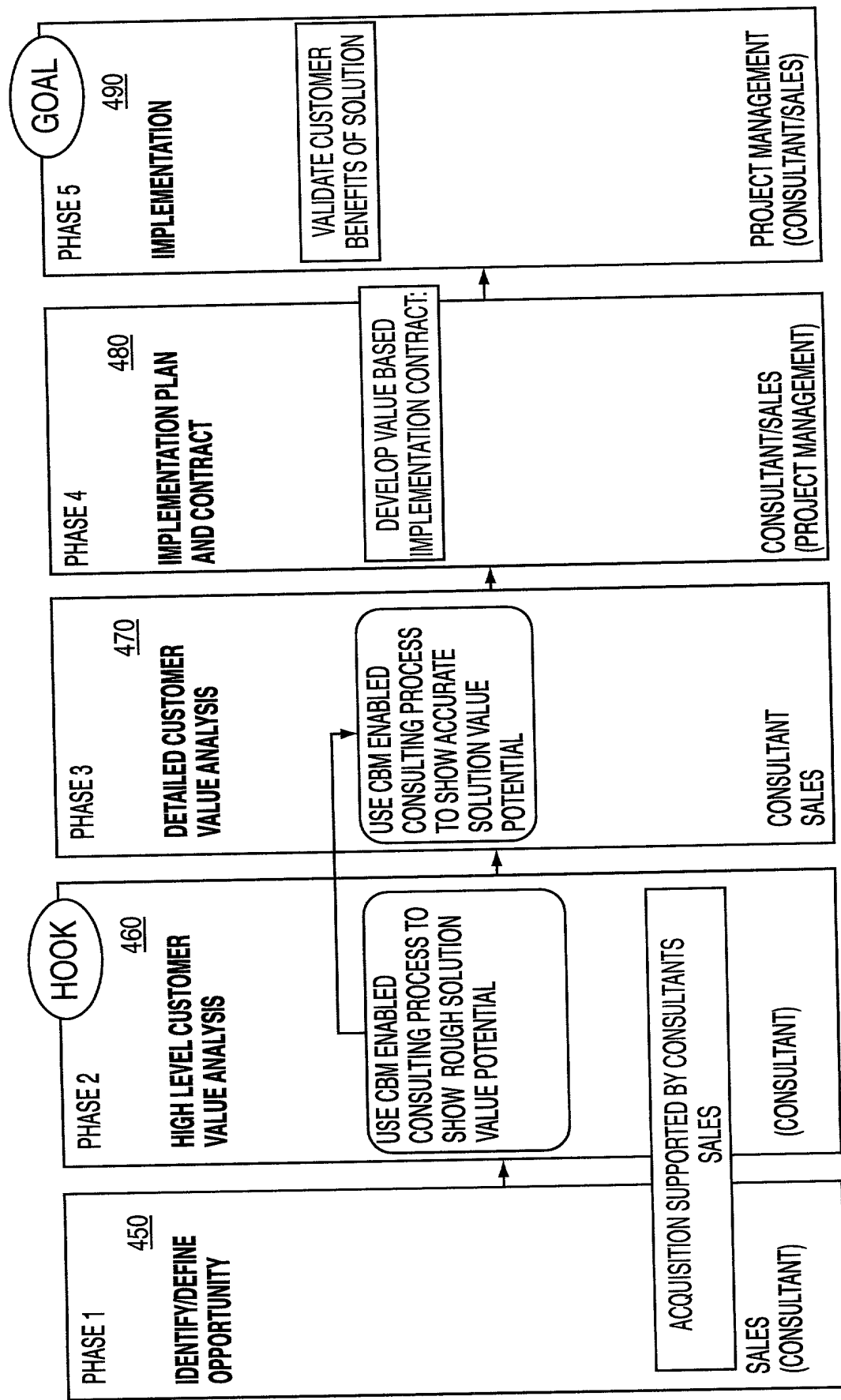


FIG. 23

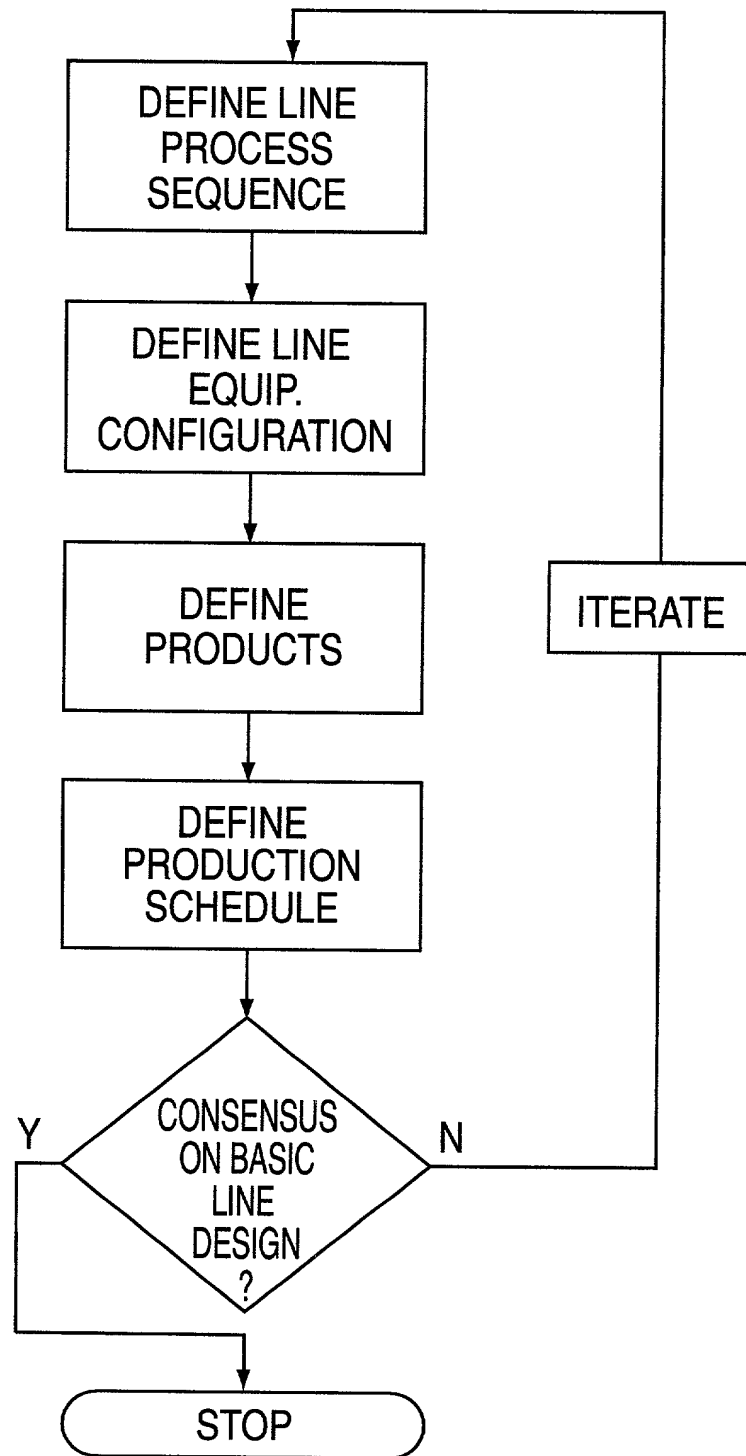


FIG. 24

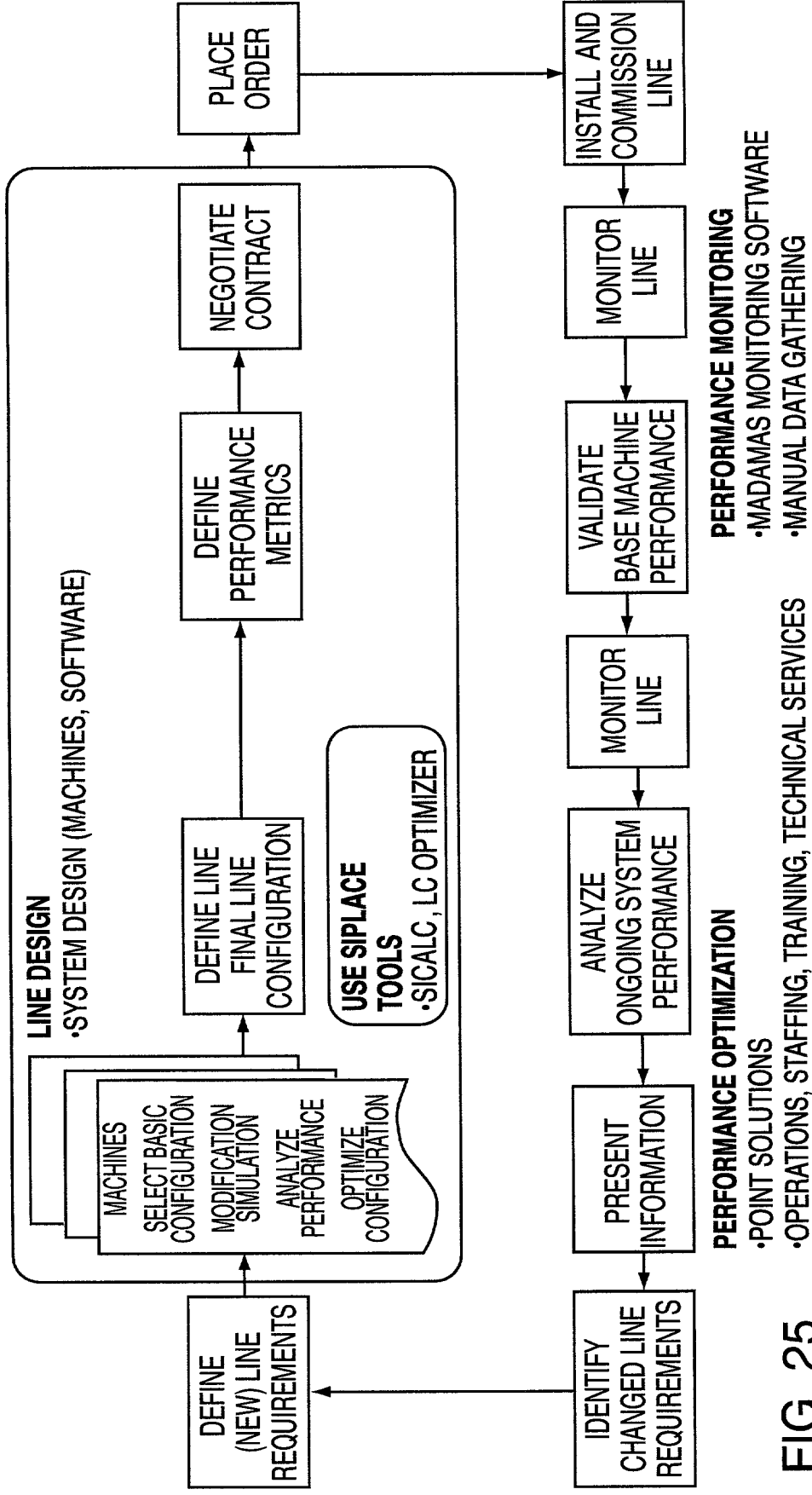


FIG. 25

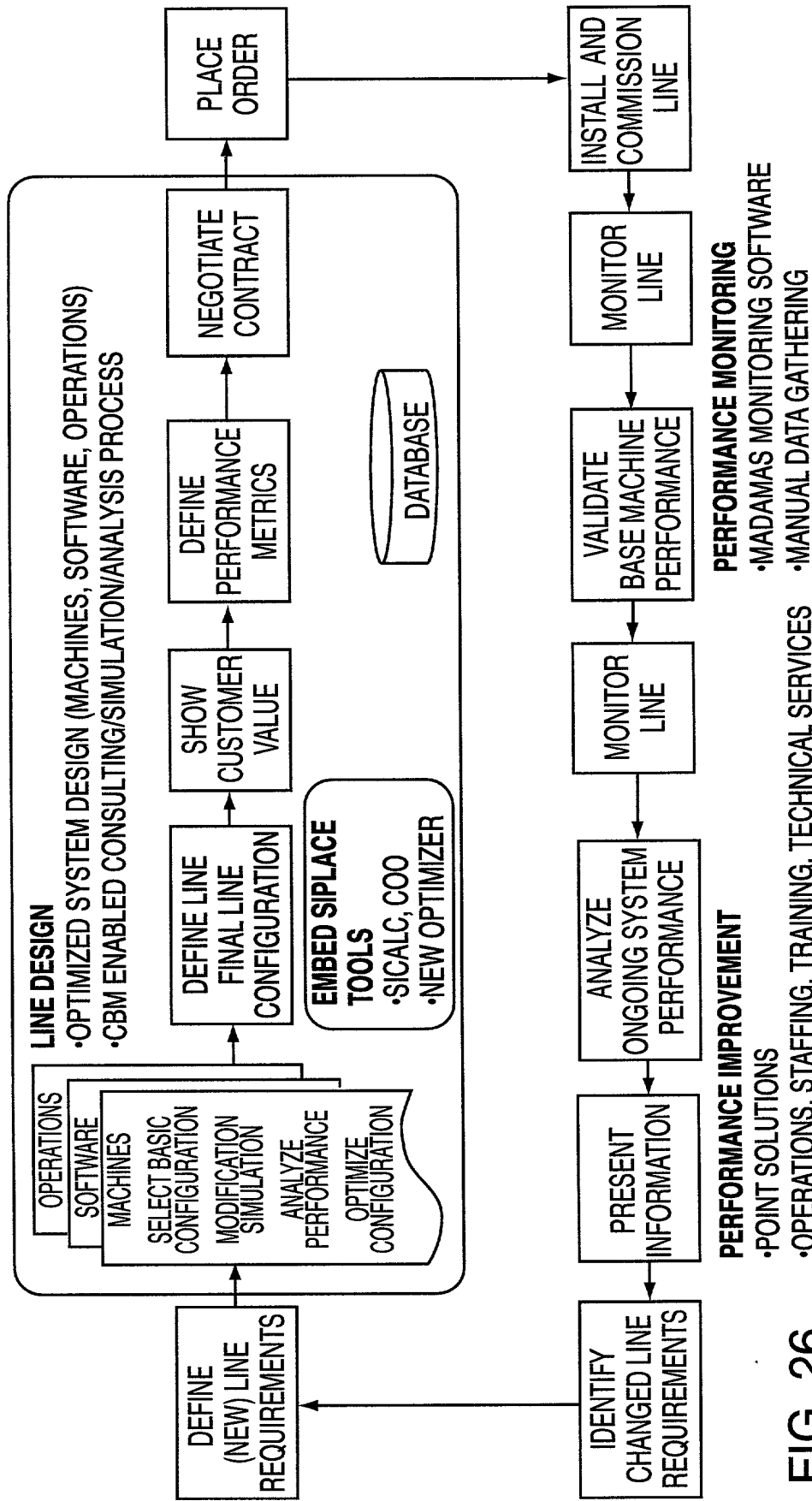


FIG. 26

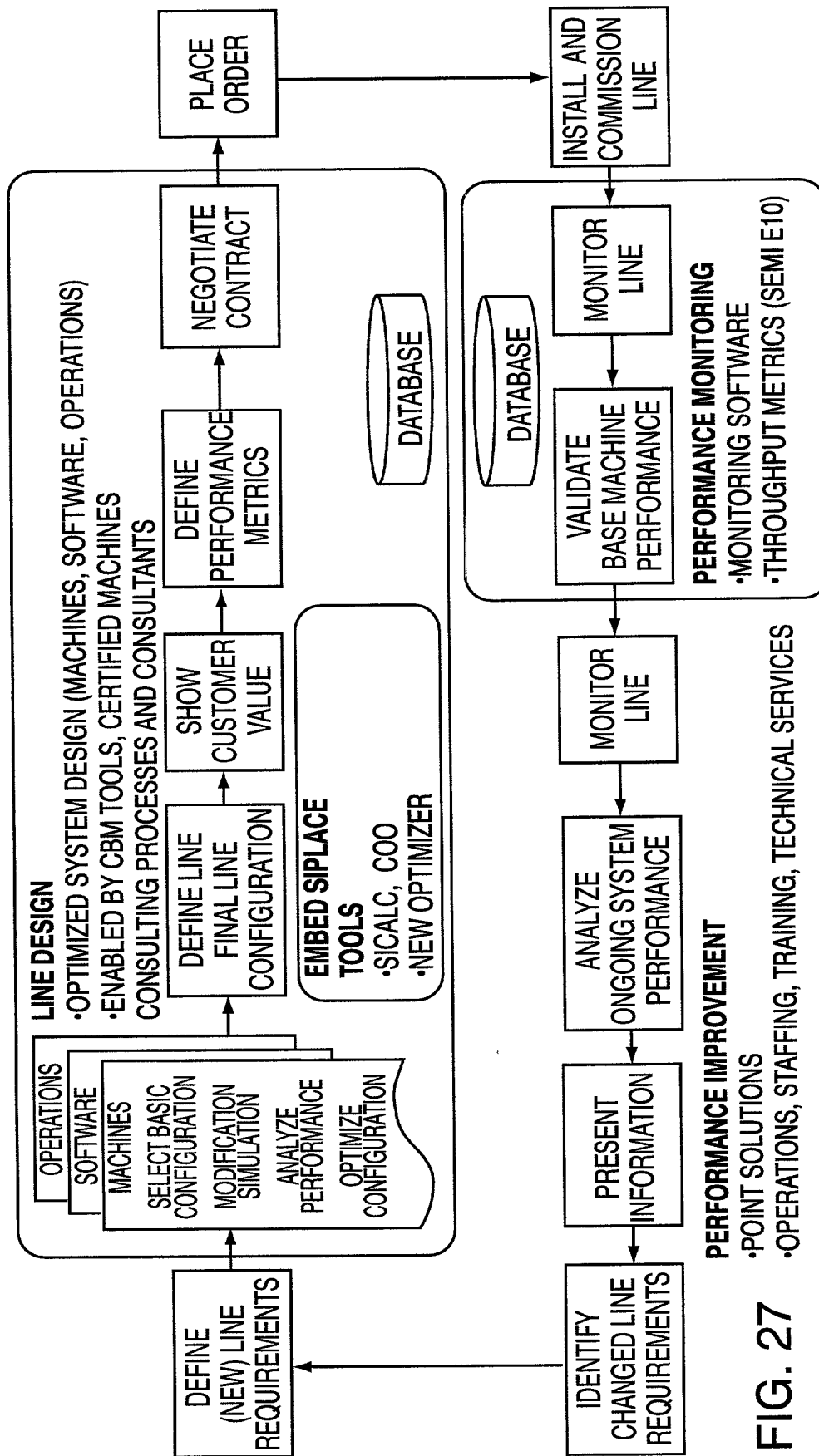


FIG. 27

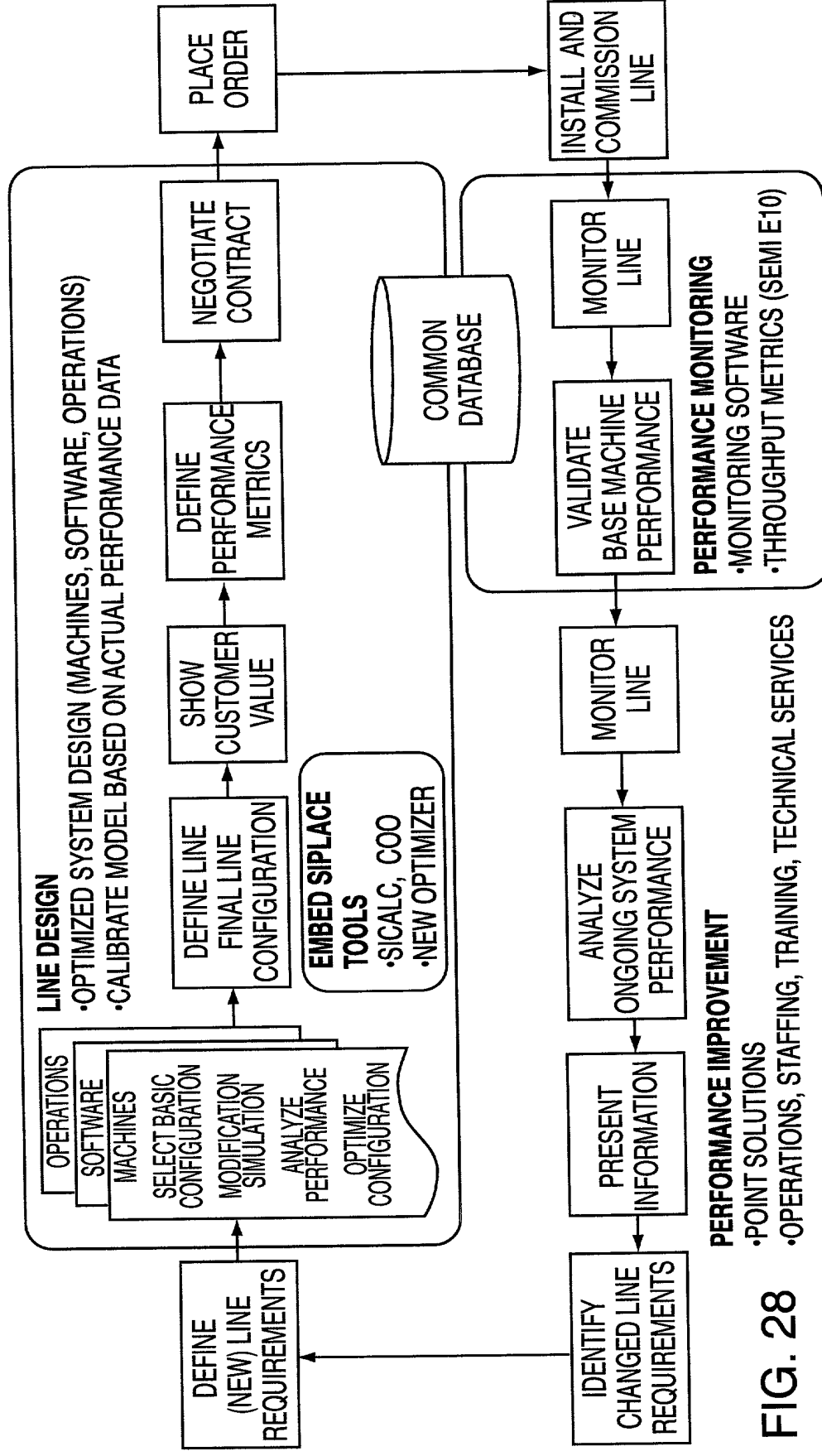


FIG. 28

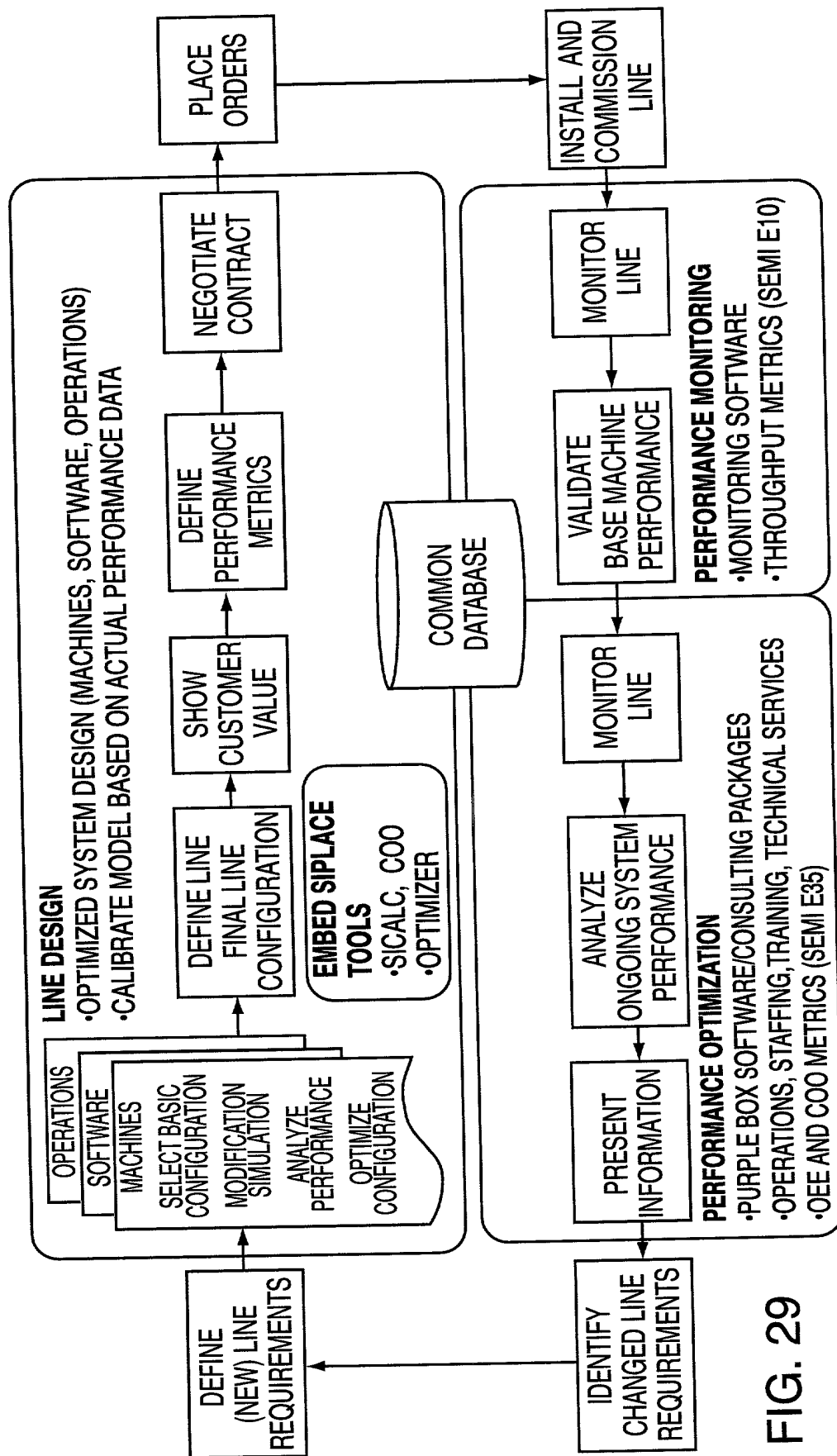


FIG. 29

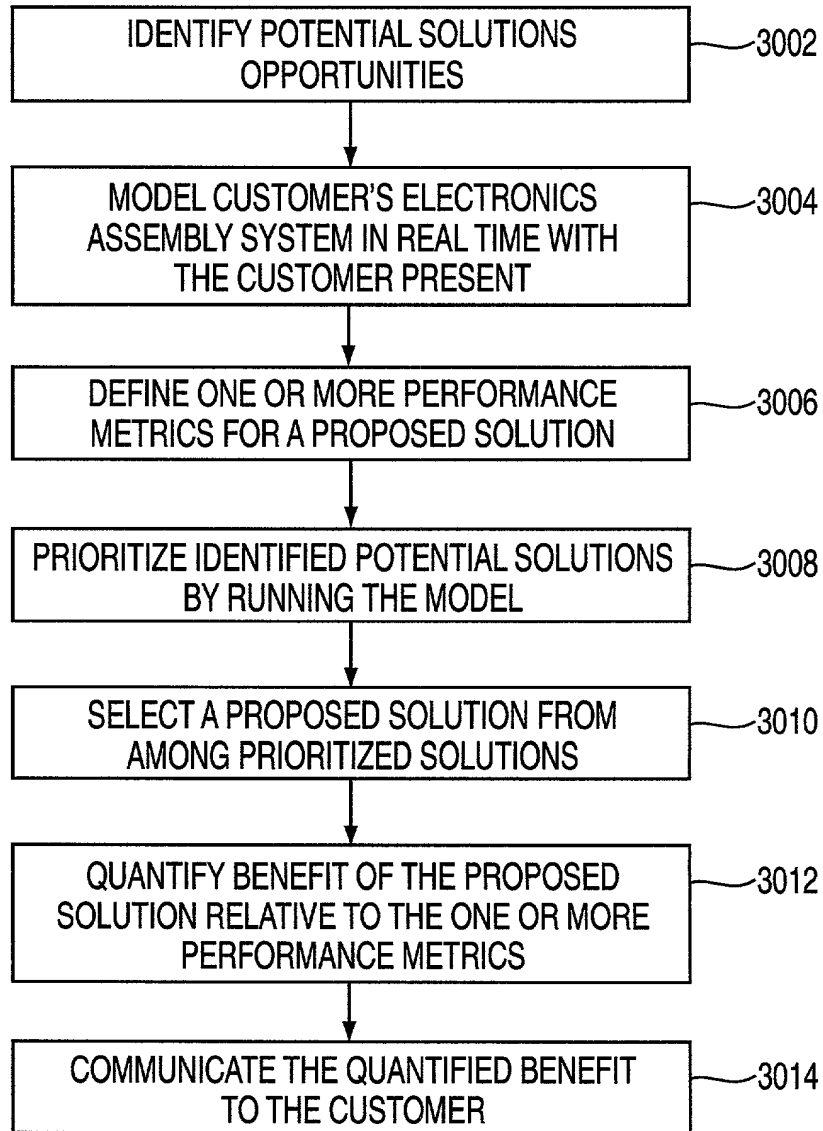


FIG. 30

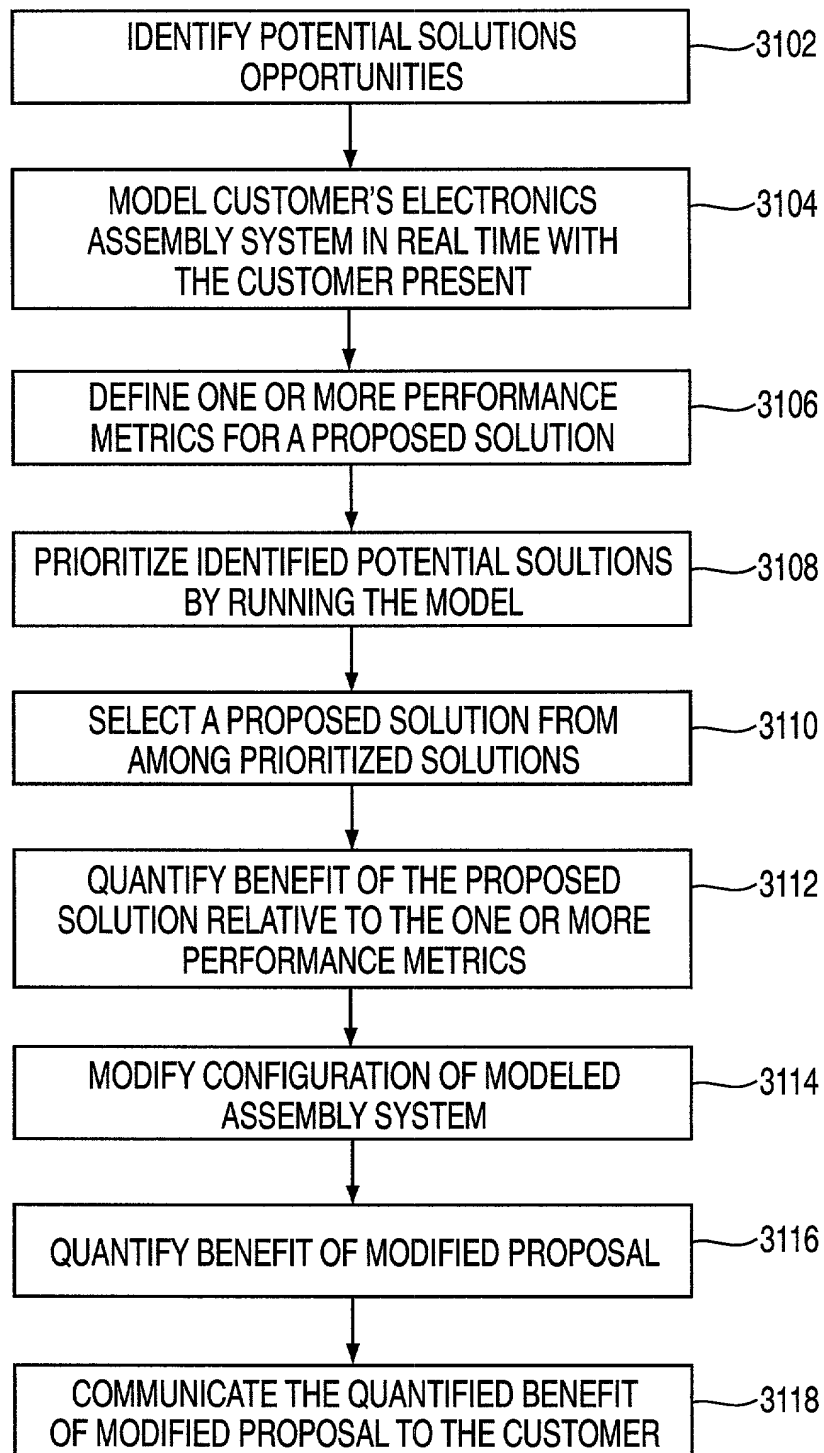


FIG. 31

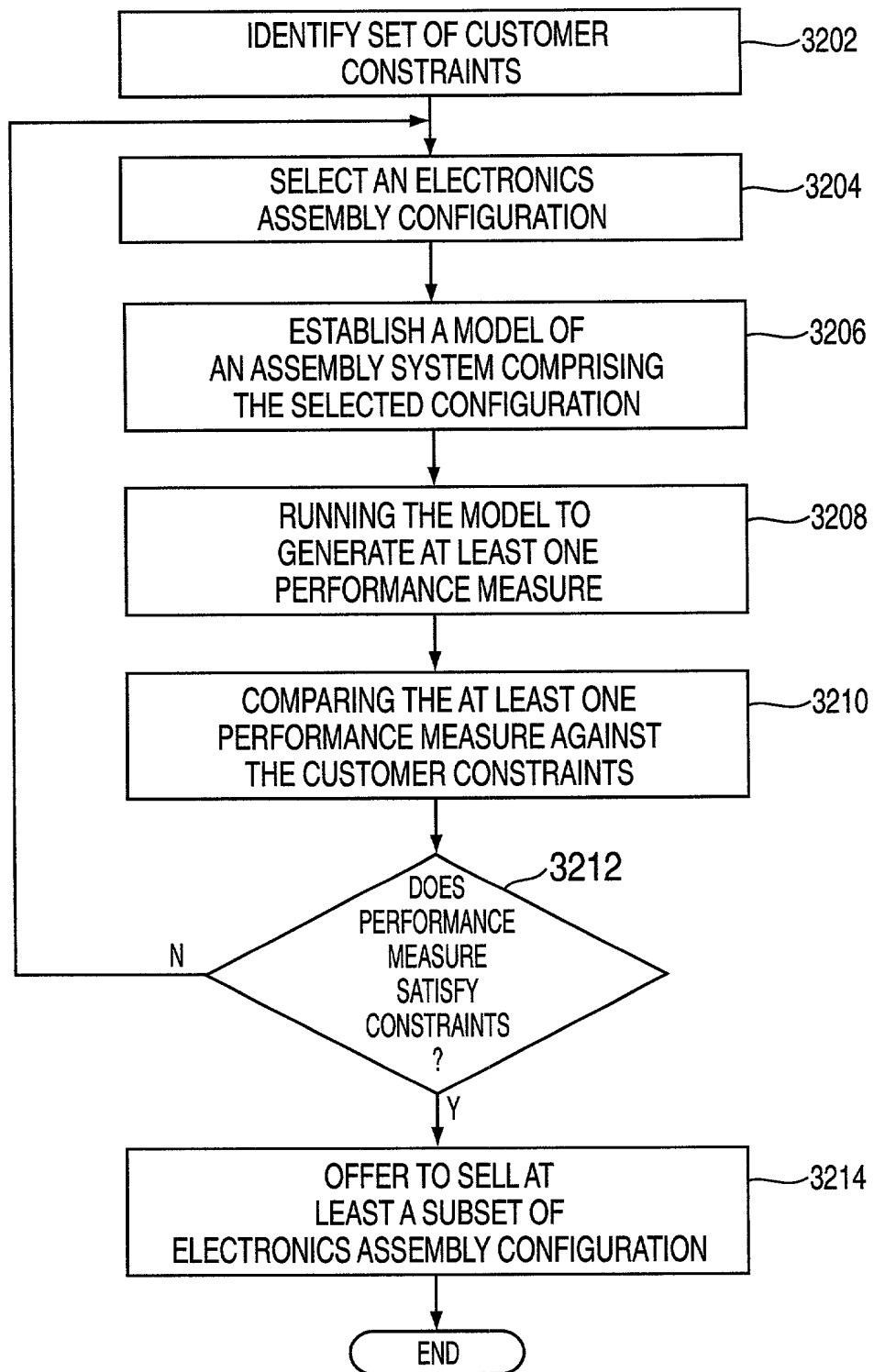


FIG. 32

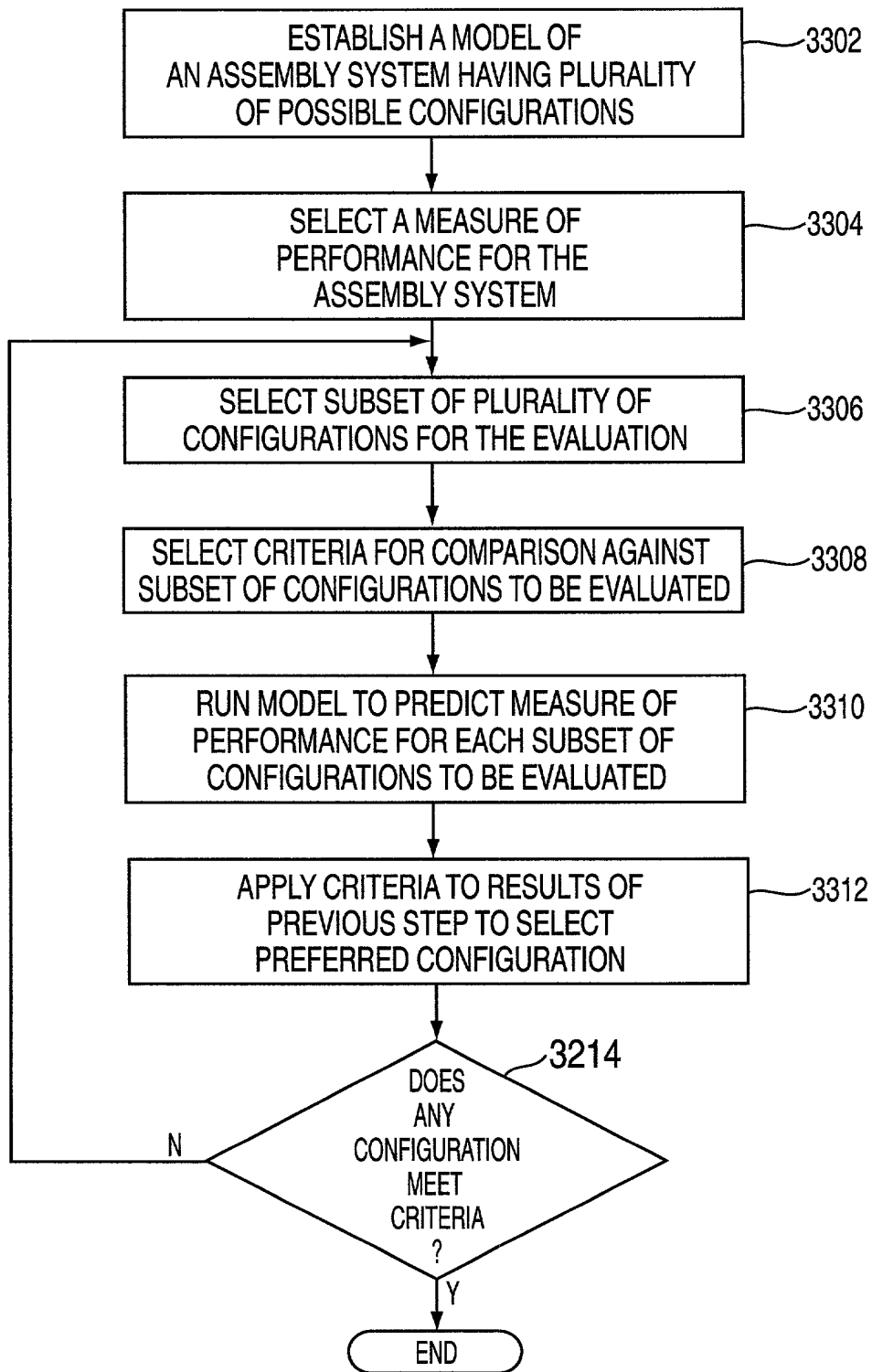


FIG. 33

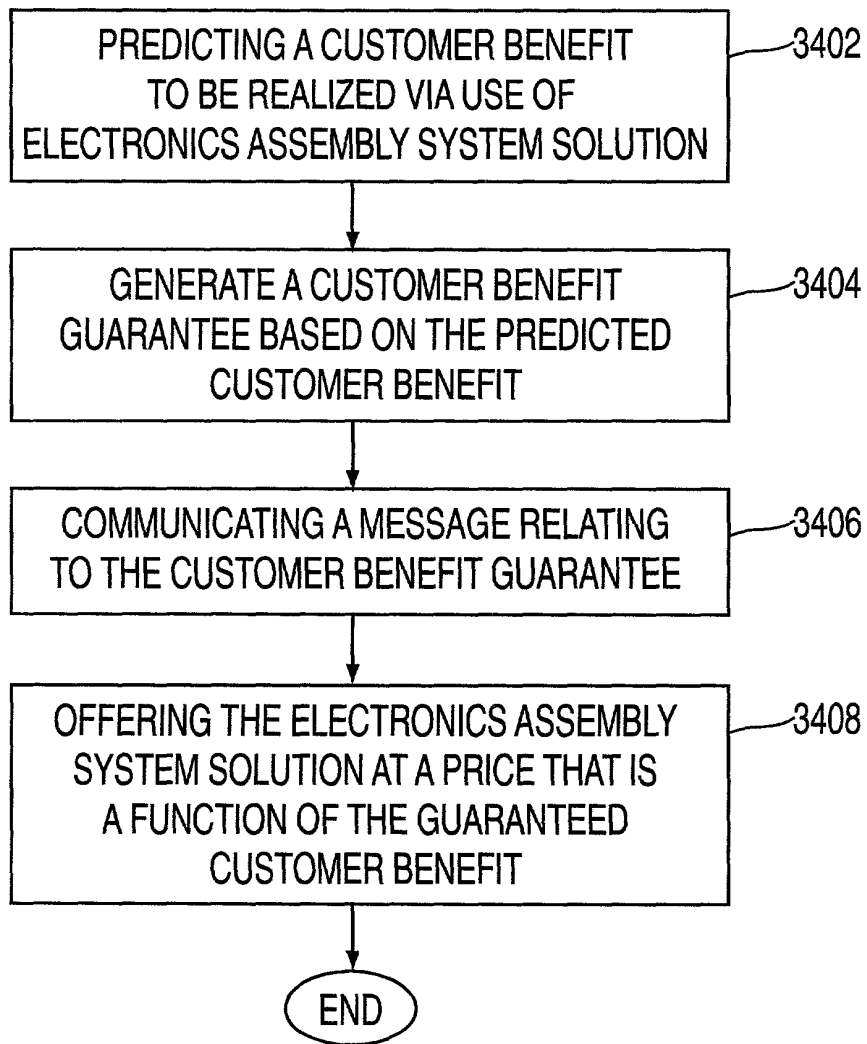


FIG. 34

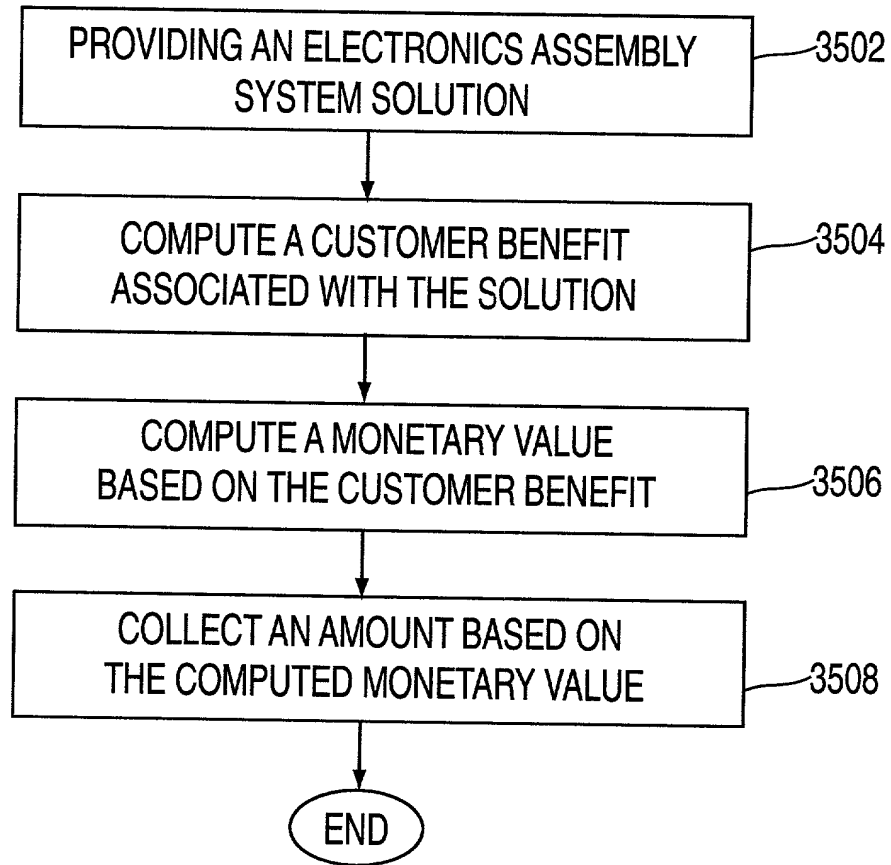


FIG. 35

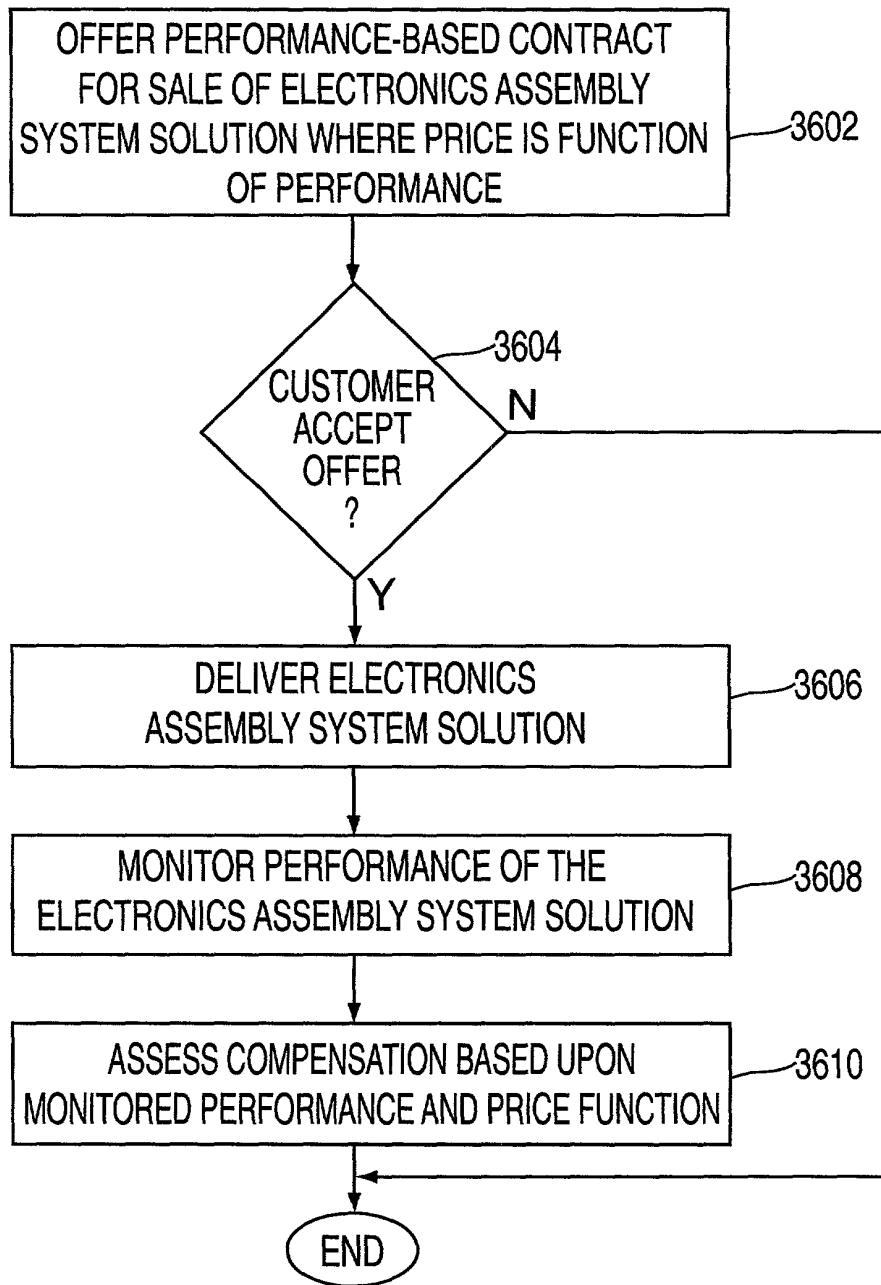


FIG. 36